

CENTROMERIC LINKAGE IN MAN

GILBERT B. COTE

VOLUME II

APPENDICES

APPENDIX I

COMPUTER PROGRAMMES

LISTED IN ALPHABETICAL ORDER UNDER THE NAMES
APPEARING IN THE UPPER RIGHT CORNERS.

SUBROUTINE ABCW(HAW,MA,HBW,MB,HABW,MAB)

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ABCW

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00001460

00001470

ARGUMENTS

HAW - INTEGER ARRAY IN W FORM

00001540

HBW - INTEGER ARRAY IN W FORM

00001550

HABW - INTEGER ARRAY IN W FORM

00001560

USAGE

GENERAL

00001570

00001580

00001590

C*****00001620

INTEGER HAW(MA),HBW(MB), HABW(MAB)

00001630

HABW(2)=10000

00001640

HABW(3)=0

00001650

HABW(4)=0

00001660

NA=HAW(1)

00001670

NB=HBW(1)

00001680

K=3

00001690

DO 1 I=5,NA,2

00001700

AA=HAW(I+1)

00001710

DO 2 J=5,NB,2

00001720

K=K+2

00001730

HABW(K)=ISHPU(1,HAW(I),HBW(J))

00001740

C TRISOMY - A=AA*AB/10000.+0.5, LINKAGE - A,AA*AB/100.+0.5, ABCW

00001750

PROP = AA * HBW (J+1) /10.0

00001760

IF (PROP.LE.1.0) GO TO 3

00001770

HABW (K+1) = PROP +.5

00001780

GO TO 2

00001790

3 HABW (K+1) = PROP + 1.0

00001800

2 CONTINUE

00001810

1 CONTINUE

00001820

HABW(1)=K+1

00001830

RETURN

00001840

END

00001850

ADDEW

	SUBROUTINE ADDEW (IW,NN,IB,IN)	00001860
C		00001870
C		00001880
C		00001890
C	ABSTRACT	00001900
C	THE BOOLEAN, IB, AND NUMERIC, IN, ELEMENTS ARE ADDED	00001910
C	TO THE TAIL OF THE W-ARRAY, IW.	00001920
C		00001930
C	ARGUMENTS	00001940
C	IW - INTEGER ARRAY IN W FORM.	00001950
C	IB - INTEGER WORD REPRESENTING BOOLEAN OR QUALITATIVE	00001960
C	OF THE NEW ELEMENT TO BE ADDED.	00001970
C	IN - INTEGER WORD REPRESENTING NUMERIC PART.	00001980
C		00001990
C	USAGE	00002000
C	GENERAL	00002010
C		00002020
C	REQUIREMENTS	00002030
C	NONE	00002040
C		00002050
C	*****	00002060
C	DIMENSION IW (NN)	00002070
C	IF(IW(1)-0)1,2,1	00002080
C	2 IW(1)=4	00002090
C	1 IW(1)=IW(1)+2	00002100
C	J=IW(1)-1	00002110
C	IW(J)=IB	
C	IW(J+1)=IN	
C	RETURN	
C	END	

C
C
FUNCTION ALIKW (JEXW,JE,JOBW,JO)

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ALIKW

00002130

00002140

DIMENSION JEXW(JE), JOBW(JO)

00002260

ALIKW=1.0

00002270

IF(JOBW(1)-4)9,9,10

00002280

10 CONTINUE

00002290

NEX=JEXW(1)

00002300

NOB=JOBW(1)

00002310

DO 1 K=5,NOB,2

00002320

DO 2 J=5,NEX,2

00002330

IF(JEXW(J)-JOBW(K))2,3,2

00002340

3 I=JOBW(K+1)

00002350

IF(I-1)1,5,6

00002360

5 A=JEXW(J+1)/40000.0

00002370

GOTO 4

00002380

6 AN=JEXW(J+1)/40000.0

00002390

A=AN**I

00002400

GOTO 4

00002410

2 CONTINUE

00002420

ALIKW=0.

00002430

RETURN

00002440

4 ALIKW=ALIKW*A

00002450

1 CONTINUE

00002460

9 CONTINUE

00002470

RETURN

00002480

END

00002490

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FUNCTION ALNKW (DP,IDPL,DM,IDML,PCH,IOBS,ITJ,NAND)
C
C          ITJ - INTEGER VALUE OF THETA (RECOMBINATION FRACTION)
C          PCH - INTEGER ARRAY OF OBSERVED CHILDREN IN W FORM.
C
C  ITJ= THETA AS INPUT
C  ITH= PATERNAL THETA
C  ITM= MATERNAL THETA
C  NAND= 0 TO CALCULATE LIK FOR THETA= 0.5
C  NAND= 2 097 152  P
C          = 4 194 304  M
C          = 6 291 456  I
C
C*****
C  INTEGER HP(12)
C  INTEGER HM(12)
C  INTEGER PECH(36)
C  INTEGER DP(IDPL),DM(IDML),PCH(IOBS)
C  DIMENSION LBIT (28), MBIT(28)
C  NP=DP(1)
C  NM=DM(1)
C  ITH=ITJ
C  ITM=ITH
C  IF (NAND.EQ. 0 .OR. NAND .EQ.6291456) GO TO 3
C  ITM=50
C  IF( NAND.EQ. 2097152)  GO TO 3
C  ITM=ITH
C  ITH=50
3  CONTINUE
C  ALS=0.0
C  DO 1 I=5,NP,2
C  CALL SEGW(DP(I),ITH,HP)
C  DMI=DP(I+1)
C  DO 2 J=5,NM,2
C  IDM=DM(J)
C  CALL SEGW(IDM,ITM,HM)
C  CALL ORPW(HP,HM,PECH)
C  DMJ=DM(J+1)
C  ALS = ALS+ALIKW (PECH,36,PCH,IOBS)*DMI*DMJ
C  IF(DMI.NE.0.AND.DMJ.NE.0) GO TO 2
C  WRITE(2,400)
400  FORMAT (' WARNING, ZERO FREQUENCY')
2  CONTINUE
1  CONTINUE
C  IF (ALS) 17,17,18
17  WRITE (2,401)
401  FORMAT (' WARNING, ZERO LIKELIHOOD')
19  ALNKW =0
C  GO TO 9
18  ALNKW = ALOG10(ALS)
9  RETURN
END

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```
SUBROUTINE BINX(N,L,NX)
DIMENSION L(N)
NX=0
DO 50 I=1,N
IF(L(I).LE.0)GOTO 50
M=N-I
NX=NX+2**M
50 CONTINUE
RETURN
END
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B I N X

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SUBROUTINE BLINK (ITH)                                00003230
C                                                        00003240
C*****SUBROUTINE BLINK(ITH)*****00003250
C                                                        00003260
C                                                        00003270
C USAGE                LINKAGE                00003280
C                                                        00003290
C                                                        00003300
C*****00003310
C    INTEGER      HAW,HBW,HABW,DPW,DMW,PCW,PP(6)        00003320
C    DIMENSION MAR (26,70)                             00003330
C    DIMENSION LOC(80),ICLOC(70),JPST(81)              00003340
C    INTEGER HWS ( 770) , AP(430), JP(430)             00003350
C    INTEGER      IDPM(3)/' I','P ',' M '/            00003360
C    DIMENSION RITH (5)                                00003370
C    INTEGER JDPM(3)/'I','P','M'/                      00003380
C    DIMENSION MASK (70),NT(70)                        00003390
C    DIMENSION ITH(5)                                  00003400
C    DIMENSION ALOD(5)                                 00003410
C    DIMENSION HAW( 24),HBW( 24),HABW( 84),DPW(3204),DMW(3204), 00003420
C    1PCW( 44)                                          00003430
C    INTEGER EVR /'ALL'/                                00003440
C    INTEGER ABD/'ABD'/, MN4/'MN4'/, PE1/'PE1'/, RH6/'RH6'/, 00003450
C    *      KL2/'KL2'/, KL4/'KL4'/, LU2/'LU2'/, FY2/'FY2'/, 00003460
C    *      JK2/'JK2'/, LE1/'LE1'/, LE2/'LE2'/          00003470
C    INTEGER HP /'HP'/,GM/'GM'/                        00003480
C    COMMON NREC,NRECA,NRECB,NRECC,NCA,NCB,NCC,NCD,NCE,NCR,NCW 00003490
C    1,LCA,LCB,LCC,LCD,LCE                             00003500
C    COMMON NL,NIND,MAR,HWS,LOC                         00003510
C    1,JP,AP,JPST                                       00003520
C    2,ICLOC                                             00003530
C    COMMON IWIN, JWIN,KWIN,NWIN,MARRO,MARCO,IPCW1      00003540
C    DATA MSK/6291456/                                00003550
C    DATA NTH/5/                                       00003560
C    DO 400 I=1,5                                       00003570
C    400 RITH(I) = ITH(I)/100.0                         00003580
C    WRITE (2,200) RITH                                00003590
C    200 FORMAT( '0          LOCUS      THETA  THETA  THETA  THETA00003600
C    1  THETA  MATING    PAT    MAT NO.  RECORD'/ 19X,'1  2', 00003610
C    2    5(3X,F5.2),5X,'TYPE    ', 00003620
C    3  'PHEN  PHEN SIBS  NO.'//')                    00003630
C                                                        00003640
C                                                        00003650
C    C    INITIALIZATION                                00003660
C    MSK21 = 2**21                                       00003670
C    MSK22 = 2**22                                       00003680
C    MSK28 = 2**28                                       00003690
C    NMAT=NIND-2                                         00003700
C    NPAT=NIND-5                                         00003710
C    DO 504 IA = 1,LCA                                  00003720
C    MASK(IA) = MSK28                                    00003730
C    ICIA = ICLOC (IA)                                  00003740
C    CALL FNDWS (HWS,KWIN,ICIA,HAW,IWIN)                00003750
C    NT REQUIRED FOR FRMHW IN HLA                        00003760
C    NT(IA)=HAW(4)                                      00003770
C    C    DETERMINE INFORMATION                        00003780
C    CALL ELIM (IA,MAR,MARRO,MAR CO,HAW,IWIN,NPAT)      00003790
C    C    GM DECLARED INFORMATIVE IF PHENOTYPE IS DOMINANT. 00003800

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	IF (ICIA -GM) 480,500,480	00003810
500	CALL ZBOOL (MAR(NPAT,IA),MSK21,LCM1,1)	00003820
	IF (LCM1) 501,501,502	00003830
501	MRP1 = MAR (NPAT,IA)	00003840
	IF (MRP1.EQ.13 .OR. MRP1.EQ.44 .OR. MRP1.EQ.50) MAR(NPAT,IA)=	00003850
	*MAR(NPAT,IA) +MSK21	00003860
502	CALL ZBOOL (MAR(NPAT,IA),MSK22, LCM1,1)	00003870
	IF (LCM1) 503,503,480	00003880
503	MRP1 = MAR (NPAT,IA)	00003890
	IF (MRP1.EQ.13 .OR. MRP1.EQ.44 .OR. MRP1.EQ.50) MAR(NPAT,IA)=	00003900
	* MAR(NPAT,IA) +MSK22	00003910
	GO TO 429	00003920
C	RH DECLARED INFORMATIVE IF PHEN. IS D POS.	00003930
480	IF (ICIA -RH6) 429,496,429	00003940
C	FATHER	00003950
496	CALL ZBOOL (MAR(NPAT,IA), MSK21,LCM1,1)	00003960
	IF (LCM1) 490,490,498	00003970
490	CALL ZBOOL (MAR(NPAT,IA),4,LCM1,1)	00003980
	IF (LCM1) 498,498,493	00003990
493	MAR (NPAT, IA) = MAR(NPAT,IA) + MSK21	00004000
C	MOTHER	00004010
498	CALL ZBOOL (MAR(NPAT,IA),MSK22,LCM1,1)	00004020
	IF (LCM1) 492,492,429	00004030
492	CALL ZBOOL (MAR(NPAT,IA),4,LCM1,1)	00004040
	IF (LCM1) 429,429,495	00004050
495	MAR(NPAT,IA) = MAR(NPAT,IA) + MSK22	00004060
	GO TO 429	00004070
C	IF PARENTS KNOWN, CHECK ILLEGITIMACY AND TRIM IF NECESSARY.	00004080
429	IF (MAR(NPAT,IA) .LT.0 .OR. MAR(NPAT,IA) .LT. 0) GO TO 481	00004090
	CALL ILLEG (IA,ICIA,MAR,MARRO,MARCO,NIND,LCA)	00004100
497	IF(HAW(4).GT.7)CALL TRIMW(MAR,MARRO,MARCO,NIND,IA,MASK(IA),NT(IA))	00004110
	IF(MASK(IA).LT.MSK28)CALL PRUNW(HAW,IWIN,MASK(IA))	00004120
	GO TO 504	00004130
481	IF (HAW(4).GT.7) MASK (IA) = 2**29	00004140
504	CONTINUE	00004150
C		00004160
C		00004170
C	GET A PAIR OF LOCI FOR ANALYSIS	00004180
	LCM1=LCA-1	00004190
	DO 1 IA = 1, LCM1	00004200
	ICIA = ICLOC (IA)	00004210
	CALL FNDWS (HWS,KWIN, ICIA, HAW, IWIN)	00004220
	J=IA+1	00004230
C		00004240
	DO 2 IB = J,LCA	00004250
	ICIB = ICLOC (IB)	00004260
	CALL FNDWS (HWS,KWIN, ICIB, HBW, IWIN)	00004270
C	WEED OUT UNWANTED PAIRS	00004280
C	ARE ALL COMBINATIONS OF LOCI WANTED OR ONLY ONE IN PARTICULAR	00004290
	IF (LCB .NE. EVR .AND. LCB.NE.ICIA .AND. LCB.NE.ICIB) GO TO 2	00004300
C	ELIMINATE SOME PAIRS NEVER TO BE DONE.	00004310
	IF (ICIA.EQ.RH6 .AND. ICIB .EQ.GM) GO TO 2	00004320
	IF (ICIA -ABD) 432,431,432	00004330
432	IF (ICIA-MN4) 433,431,433	00004340
433	IF (ICIA-PE1) 458,431,458	00004350
431	IF (ICIB.EQ.MN4 .OR. ICIB.EQ.PE1.OR. ICIB.EQ.RH6) GO TO 2	00004360
458	IF (ICIB.NE.KL2 .AND. ICIB.NE. KL4) GO TO 459	00004370
	IF (ICIA -ABD) 459,2,459	00004380
459	IF (ICIB.NE. LU2 .AND. ICIB.NE. JK2) GO TO 460	00004390
	IF (ICIA.EQ.MN4 .OR. ICIA.EQ.RH6) GO T O2	00004400
460	IF (ICIB -FY2) 462,461,462	00004410
461	IF (ICIA.EQ.ABD .OR. ICIA.EQ.MN4 .OR. ICIA.EQ.PE1) GO TO 2	00004420
462	IF (ICIB -HP) 464,463,464	00004430
463	IF (ICIA.EQ.ABD .OR. ICIA.EQ.MN4 .OR. ICIA.EQ.PE1 .OR.	00004440
	*ICIA.EQ.RH6 .OR. ICIA.EQ.FY2) GO TO 2	00004450

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C ELIMINATE NON-INFORMATIVE FAMILIES                                00004460
464 CALL ZBOOL (MAR(NPAT,IA),MAR(NPAT,IB),NAND,1)                  00004470
    CALL ZBOOL(NAND,MSK,NANDZ,1)                                    00004480
    NAND= NANDZ                                                    00004490
C IF NAND= 6 291 456 THEN DOUBLE INTERCROSS                        00004500
C     2 097 152 THEN PATERNAL SCORE (= 2**21)                    00004510
C     4 194 304 THEN MATERNAL SCORE (= 2**22)                    00004520
    IF (NAND) 2,2,465                                              00004530
C DEFINE FAMILY PHENOTYPES AT TWO LOCI                             00004540
465 CALL FCPGW (MAR,MARRO,MARCO,IA,IB,NIND,PP,PCW,IPCW1)          00004550
    NCE = 0                                                         00004560
    IPCW2 = PCW (1)                                                 00004570
    IF (IPCW2 -4 ) 472,2,472                                        00004580
472 DO 471 I= 6,IPCW2 ,2                                           00004590
471 NCE = NCE + PCW (I)                                             00004600
    IPAT=PP(1)                                                      00004610
    IMAT=PP(4)                                                      00004620
C ELIMINATE INCOMPLETE FAMILIES                                    00004630
    IF( (MASK(IA).EQ.2**29) .OR. (MASK(IB).EQ.2**29) ) GO TO 2    00004640
C THE FOLL. STMT CAN BE CHANGED IF ONE WISHES TO ANALYSE FAMILIES WHERE 00004650
C BOTH PARENTS ARE UNKNOWN. IF(NCE-X KIDS)467,468,468             00004660
    IF (NCE -20) 467,2,2                                           00004670
467 IF (IPAT.GE.0 .AND. IMAT.GE.0 .AND. NCE.GT.1) GO TO 468       00004680
    IF((IPAT.GE.0 .OR. IMAT.GE.0) .AND. NCE.GE.2                  00004690
    *.AND.ICIA.NE.RH6 .AND.ICIA.NE.GM .AND.ICIB.NE.RH6.AND.ICIB.NE. 00004700
    *GM) GO TO 468                                                  00004710
    IF (IPAT.LT.0 .OR. IMAT.LT.0) GO TO 2                          00004720
    IF (PP(2).GT.0 .AND. PP(3).GT.0) GO TO 470                    00004730
    IF (NAND - 4194304) 2,470,2                                    00004740
470 IF (PP(5).GT.0 .AND. PP(6).GT.0) GO TO 468                    00004750
    IF (NAND -2097152) 2,468,2                                     00004760
C DO THE ANALYSIS                                                 00004770
468 CALL ABCW (HAW,IWIN,HBW,IWIN,HABW,NWIN)                        00004780
    CALL PPRDW(HABW,NWIN,PP(1),PP(2),PP(3),DPW,JWIN)              00004790
    CALL PPRDW(HABW,NWIN,PP(4),PP(5),PP(6),DMW,JWIN)              00004800
    AL50= ALNKW (DPW,JWIN,DMW,JWIN,PCW,IPCW1,50,0)                00004810
    DO 33 I=1,NTH                                                  00004820
    ALOD(I)=0.                                                      00004830
    IF(ITH(I).EQ.0)GOTO 33                                          00004840
    ALS= ALNKW (DPW,JWIN,DMW,JWIN,PCW,IPCW1,ITH(I),NAND)          00004850
    IF(ALS.EQ.0.)ALS=AL50                                           00004860
    ALOD(I)= ALS-AL50                                              00004870
33 CONTINUE                                                         00004880
C DETERMINE TYPE OF MATING                                         00004890
    NTYPE = IDPM(1)                                                 00004900
    NCROS = JDPM(1)                                                 00004910
    IF (NAND-2097152) 423,421,423                                   00004920
421 NTYPE = IDPM(2)                                                 00004930
    NCROS = JDPM(2)                                                 00004940
    GO TO 469                                                       00004950
423 IF(NAND- 4194304)469,424,469                                   00004960
424 NTYPE = IDPM(3)                                                 00004970
    NCROS= JDP M(3)                                                 00004980
469 NCB=NCB+1                                                       00004990
    IF (ITH (1).NE.0.0.AND.ITH(2).NE.0.0) WRITE(2,401)           00005000
    * ICLOC(IA),ICLOC(IB),ALOD,NTYPE,IPAT,IMAT,NCE,NCB            00005010
401 FORMAT (' ',17X,A3,1X,A3, 5(2X,F6.3),A9,I6,I7,I5,I8)          00005020
    IF (ITH (1).NE.0.0.AND.ITH(2).EQ.0.0) WRITE(2,402)           00005030
    *ICLOC(IA),ICLOC(IB),ALOD(1),ALOD(3),ALOD(5),NTYPE,IPAT,      00005040
    *IMAT,NCE,NCB                                                  00005050
402 FORMAT (' ',17X,A3,1X,A3, 2X,F6.3,2(10X,F6.3),A9,I6,I7,I5,I8)00005060

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	IF (ITH(1).EQ.0.0 .AND. ITH(2).NE.0.0)	00005070
	*WRITE(2,300) ICLOC(IA),ICLOC(IB),	00005080
	1ALOD(2),ALOD(4), NTYPE, IPAT,IMAT,NCE,NCB	00005090
300	FORMAT (' ',17X,A3,1X,A3, 2(10X,F6.3), A17,I6,I7,I5,I8)	00005100
	WRITE (7,420)NRECA,NRECB,NRECC,ICLOC(IA),ICLOC(IB),ALOD,NCROS,	00005110
	*IPAT,IMAT,NCE,NCB	00005120
420	FORMAT (A2,A3,I2,2A3,5F8.3,A1,2I5,I2,I6)	00005130
2	CONTINUE	00005140
1	CONTINUE	00005150
	RETURN	00005160
	END	00005170

	SUBROUTINE CHKDW(IW,IONE,IPH,JW)	00005180
C		00005190
C		00005200
C	ARGUMENTS	00005260
C	IW - INTEGER ARRAY IN W FORM REPRESENTING DIPLOID SET	00005270
C	IPH - INTEGER WORD REPRESENTING INDIVIDUALS PHENOTYPE	00005280
C	JW - INTEGER ARRAY IN W FORM REPRESENTING INDIVIDUALS	00005290
C	POSSIBLE DIPTYPES.	00005300
C		00005310
C	USAGE	00005320
C	LINKAGE	00005330
C	REQUIREMENTS	00005340
C	MORN,ZBOOL,RNKW,EQW	00005350
C	*****	00005360
	DIMENSION IW (IONE), JW (IONE)	00005370
	IF (IPH) 8,6,6	00005380
8	CALL EQW (IW,IONE,JW)	00005390
	GO TO 7	00005400
6	N=IW(1)	00005410
	K=3	00005420
	DO 500 I=5,N,2	00005430
	L=MORN(IW(I))	00005440
	CALL ZBOOL (L,IPH,J,6)	00005450
	IF (J) 500,2,500	00005460
2	CONTINUE	00005470
	K=K+2	00005480
	JW(K)=IW(I)	00005490
	JW(K+1)=IW(I+1)	00005500
500	CONTINUE	00005510
	JW(1)=K+1	00005520
	JW(2)=IW(2)	00005530
	JW(3) =0	00005540
	JW(4) =0	00005550
7	CALL RNKBW(JW,IONE)	00005560
	RETURN	00005570
	END	

SUBROUTINE DHW (HW,NWIN,DW,JWIN,HAW)	00005580
INTEGER HW(NWIN),DW(JWIN) , HAW (NWIN)	00005590
N=DW(1)	00005600
K=1	00005610
DO 1 I=5,N,2	00005620
K=K+4	00005630
IF (K-81)2,3,3	00005640
3 HAW(1)=K-1	00005650
CALL RNKBW (HAW,NWIN)	00005660
K=HAW(1)+1	00005670
2 CONTINUE	00005680
HAW(K)=MEQ(DW(I))	00005690
HAW(K+2)=NEQ(DW(I))	00005700
1 CONTINUE	00005710
HAW(1)=K+3	00005720
CALL RNKBW (HAW,NWIN)	00005730
N=HAW(1)	00005740
NH=HW(1)	00005750
DO 4 I=5,N,2	00005760
DO 100 J=5,NH,2	00005770
IF(HAW(I)-HW(J))100,101,100	00005780
100 CONTINUE	00005790
HAW(I+1)=-9999	00005800
GOTO 102	00005810
101 HAW(I+1)=HW(J+1)	00005820
102 CONTINUE	00005830
4 CONTINUE	00005840
HAW(2)=HW(2)	00005850
HAW (3) =0	00005860
HAW (4) =0	00005870
RETURN	00005880
END	00005890

ELIM

	SUBROUTINE ELIM (IA, MAR, LROW, LCOL, IW, IIW, IP)	00006100
	DIMENSION MAR (LROW, LCOL), IW (IIW)	00006110
	II=0	00006120
	IM=IP+3	00006130
	DO 1 I=IP, IM, 3	00006140
	II=II+1	00006150
	L= JHOM (IW, IIW, MAR(I, IA))	00006160
	IF (MAR (IP, IA)) 6, 5, 5	00006170
6	IF (II.EQ.2.AND.L.EQ.0) CALL ZBIT (0, 32, 32, MAR (IP, IA), 10)	00006180
	GO TO 1	00006190
5	IF (L) 1, 1, 2	00006200
2	MAR(IP, IA)=MAR(IP, IA)+2** (20+II)	00006210
1	CONTINUE	00006220
	RETURN	00006230
	END	00006240

SUBROUTINE EQW (IW,NS,JW)		00005900
C		00005910
C		00005920
C	ABSTRACT	THE W-ARRAY JW IS MADE EQUAL TO THE W-ARRAY IW.
C		00005940
C	ARGUMENTS	IW - INTEGER ARRAY IN W FORM
C		00005950
C		JW - INTEGER ARRAY IN W FORM
C		00005960
C		00005970
C	USAGE	GENERAL
C		00005980
C		00005990
C	REQUIREMENTS	NONE
C		00006000
C		00006010
C	*****	
C		00006020
	DIMENSION IW (NS), JW(NS)	00006030
	N=IW(1)	00006040
	DO 1 I=1,N	00006050
	JW(I)=IW(I)	00006060
1	CONTINUE	00006070
	RETURN	00006080
	END	00006090

FAMGAL

C	SUBROUTINE FAMGAL (MREL, MAKRO, NIND)	00006250
	FOR KINDREDS CONTAINING MORE THAN ONE NUCLEAR FAMILY.	00006260
	DIMENSION MREL (MAKRO, 3)	00006270
	DO 1 I=1, NIND	00006280
	MREL(I, 3)=-1	00006290
	IF(MREL(I, 1).EQ.0.OR.MREL(I, 2).EQ.0)GOTO 1	00006300
	J=I+1	00006310
	IF(J.GT.NIND)RETURN	00006320
	DO 2 K=J, NIND	00006330
	IF(MREL(I, 1).NE.MREL(K, 1))GOTO 2	00006340
	IF(MREL(I, 2).NE.MREL(K, 2))GOTO 2	00006350
	MREL(I, 3)=K	00006360
	GOTO 1	00006370
2	CONTINUE	00006380
1	CONTINUE	00006390
	RETURN	00006400
	END	00006410

SUBROUTINE FCPGW (MAR,MARRO,MARCO,IA,IB,NIND,PP,PCW,NQ)	00006420
INTEGER PP(6), PCW(NQ)	00006430
DIMENSION MAR (MARRO,MARCO)	00006440
PCW(1)=0	00006450
PCW(2)=1	00006460
NC=NIND-6	00006470
DO 1 I=1,NC	00006480
LCA=LMARK(MAR(I,IA),MAR(I,IB))	00006490
CALL ADDEW (PCW,NQ,LCA,1)	00006500
1 CONTINUE	00006510
K=0	00006520
I=NIND-5	00006530
DO 2 J=I,NIND	00006540
K=K+1	00006550
PP(K)=LMARK(MAR(J,IA),MAR(J,IB))	00006560
2 CONTINUE	00006570
CALL RNKBW (PCW,NQ)	00006580
RETURN	00006590
END	00006600

SUBROUTINE FNDWS (IWS, KWIN, LABEL, JW, IWIN)

00006610

FNDWS

00006620

00006630

ARGUMENTS

IWS - INTEGER ARRAY REPRESENTING A STRING OF W-ARRAYS

00006680

LABEL - INTEGER WORD WITH 2 CHARACTER LABEL.

00006690

JW - INTEGER ARRAY REPRESENTING W-ARRAY.

00006700

USAGE

GENERAL

00006710

00006720

REQUIREMENTS

NONE

00006730

00006740

00006750

00006760

00006770

DIMENSION IWS (KWIN), JW (IWIN)

00006780

NCW=2

00006790

N=1

00006800

1 IF(IWS(N)-0)2,3,2

00006810

2 IF(IWS(N+2)-LABEL)4,5,4

00006820

4 N=N+IWS(N)

00006830

GOTO 1

00006840

5 M=IWS(N)

00006850

DO 6 I=1,M

00006860

JW(I)=IWS(N)

00006870

6 N=N+1

00006880

RETURN

00006890

3 WRITE(NCW,300)LABEL

00006900

300 FORMAT(1H,'ARRAY WITH LABEL NOT FOUND IN IWS',4X,A4////////)

00006910

JW(1)=0

00006920

RETURN

00006930

END

00006940

	SUBROUTINE GMB00 (IGM, IDEN)	00006950
C	ACCEPTS BLANK, 0 OR 1 AS RESULT FOR EACH TEST.	00006960
C	ANY OTHER CHARACTER CAUSES THE WHOLE GM SYSTEM TO BE INTERPRETED AS U	00006970
	DIMENSION IGM (12)	00006980
	INTEGER ZER /'0'/, BLK/' '/, ONE /'1'/'	00006990
	DO 10 I= 1,12	00007000
	J= IGM (I)	00007010
	IF (J.NE.ZER.AND. J.NE.BLK.AND.J.NE.ONE) GO TO 3	00007020
10	CONTINUE	00007030
	IDEN = 0	00007040
	IF (IGM (1) .EQ.ONE.OR. IGM(10) .EQ.ONE) IDEN = IDEN +32	00007050
	IF (IGM (2) - ONE) 12,11,12	00007060
11	IDEN = IDEN +16	00007070
12	IF (IGM(3) .EQ. ONE .OR. IGM (4) .EQ. ONE) IDEN = IDEN +8	00007080
	IF (IGM (6) .EQ. ONE .OR. IGM(7).EQ.ONE) IDEN = IDEN +4	00007090
	IF (IGM (11) -ONE) 14,13,14	00007100
13	IDEN = IDEN +2	00007110
14	IF (IGM(12) -ONE) 20,15,20	00007120
15	IDEN = IDEN +1	00007130
20	IF (IDEN) 3,3,9	00007140
3	IDEN = -20	00007150
9	RETURN	00007160
	END	00007170

// JOB

LOG DRIVE	CART SPEC	CART AVAIL	PHY DRIVE
0000	0010	0010	0000

GPHEN

V2 M10 ACTUAL 16K CONFIG 16K

// DUP

```
*DELETE          GPHEN
CART ID 0010    DB ADDR 54CC    DB CNT  000A
```

// FOR

*ONE WORD INTEGERS

*LIST SOURCE PROGRAM

INTEGER FUNCTION GPHEN (FAM,IIP, ID1, ID2, IR)

C TRANSLATION OF PHENOTYPES

C FOR TRISOMY ANALYSIS.

C DOM1= 1 DOM2= 2 REC= 0 UK= -1

DATA IB /' 1/'

NCW =3

IP = IIP

IF (IP -ID1) 10,8,10

8 GPHEN =1

GO TO 9

10 IF (IP -ID2) 2,1,2

1 GPHEN =1

GO TO 9

2 IF (IP - IR) 4,3,4

3 GPHE N=0

GO TO 9

4 IF (IP -IB) 6,5,6

6 WRITE (NCW, 11) FAM

5 GPHEN = -1

11 FORMAT (' MISCODING IN FAMILY ', A3)

9 RETURN

END

FEATURES SUPPORTED

ONE WORD INTEGERS

CORE REQUIREMENTS FOR GPHEN

COMMON	0	VARIABLES	4	PROGRAM	96
--------	---	-----------	---	---------	----

RELATIVE ENTRY POINT ADDRESS IS 0015 (HEX)

END OF COMPILATION

// DUP

```
*STORE          WS  UA  GPHEN
CART ID 0010    DB ADDR 54CC    DB CNT  0007
```

// DUP

*DELETE GREAD
CART ID 0010 DB ADDR 5474 DB CNT 0003

GREAD

// FOR

*LIST SOURCE PROGRAM

*ONE WORD INTEGERS

 SUBROUTINE GREAD (FAM, IND)

C ROUTINE TO BE USED IN CONNECTION WITH BIG MAIN PROGRAMS IN WHICH THE ONLY

C CHANGE IS A READ FORMAT.

C THE MAIN CAN USEFULLY BE STORED ON DISK AND THE ROUTINE CHANGED.

 NCR = 2

 READ (2,1) FAM, IND

C CHANGE FOLLOWING FORMAT STMT ACCORDING TO NEED

1 FORMAT (2X, A3, 54X, A1)

 RETURN

 END

FEATURES SUPPORTED

 ONE WORD INTEGERS

CORE REQUIREMENTS FOR GREAD

 COMMON 0 VARIABLES 2 PROGRAM 26

RELATIVE ENTRY POINT ADDRESS IS 0008 (HEX)

END OF COMPILATION

// DUP

*STORE WS UA GREAD

CART ID 0010 DB ADDR 54C9 DB CNT 0003

// JOB

LOG DRIVE	CART SPEC	CART AVAIL	PHY DRIVE
0000	0010	0010	0000

GSUPP

V2 M10 ACTUAL 16K CONFIG 16K

// DUP

*DELETE GSUPP
CART ID 0010 DB ADDR 57E1 DB CNT 0035

// FOR

*ONE WORD INTEGERS

*IOCS(CARD,TYPEWRITER,KEYBOARD,1132 PRINTER,DISK)

*LIST SOURCE PROGRAM

DIMENSION ALOG (101), FLOG (101)
COMMON IPENX,IPENY,IPS,IPC,IPCN,FACR,XM,SIZES,SIZEN,SIZEL,TICK,
1STEP,XSPAC,IPNAB,ITAPE,IB,IBC,IBYTE,IBASE,IMMET
CALL PLTS (7)
CALL FACT (2.0)

NCW = 3

NCP = 2

NCR = 2

READ (NCR, 20) NSET, IPNCH

20 FORMAT (2I2)

C ZEROIZE FINAL LOGS

DO 3 I= 1,101

3 FLOG (I) = 0

C

C READ N SETS OF 21 CARDS

DO 10 N= 1,NSET

DO 1 I = 1,96,5

J= I+4

READ (NCR, 2) (ALOG(K), K= I,J)

2 FORMAT (5E13.6, A3)

1 CONTINUE

READ (NCR, 7) ALOG (101), ANAME

7 FORMAT (E13.6, 52X, A3)

C

C ADD TO FINAL LOGS

DO 4 I= 1,101

4 FLOG (I)= FLOG (I) + ALOG (I)

10 CONTINUE

C

C RE-ORDER IN TERMS OF B

DO 30 I = 1,101

I102 = 102 -I

30 ALOG (I) = FLOG (I102)

C FIND MAX LIK.

EVAL = 0.0

AMAX = ALOG (1)

DO 25 I = 1,101

BMAX = ALOG (I)

IF (BMAX- AMAX) 25,22,22

22 EVAL = (I-1) * .01

IND = I

AMAX = BMAX

25 CONTINUE

C PUNCH IF IPNCH =1

IF (IP NCH-1) 41,40,41

40 KNT = 0

```

      READ (NCR, 2) BLANK
      DO 110 IF = 1,96,5
      IL = IF +4
      KNT = KNT +1
      WRITE (NCP, 113) (FLOG (I), I= IF, IL), ANAME, KNT
113  FORMAT (5E13.6 ,A3, I3)
110  CONTINUE
      KNT = 21
      WRITE (NCP, 114) FLOG (101), ANAME, KNT
114  FORMAT (E13.6, 52X, A3, I3)
C
C GET LODS.
41   DO 125 I= 1,101
125  FLOG (I) = FLOG (I) -AMAX
C PLOT B AGAINST SUPPORT
      KPLOT = 1
      DO 130 I= 1,101
      ALOD = FLOG (I)
      X = (1.-.01 * (I-1)) * 2.0
      IF (ALOD + 5.0) 130, 239, 239
239  IF(KPLOT -1) 240,241,240
241  CALL PLOT (X, ALOD, 3)
      KPLOT = 2
      GO TO 130
240  CALL PLOT (X, ALOD, 2)
130  CONTINUE
      CALL GFRAM (0.0, -5.0, 1.0, 0.0, 2.0, 1.0, 1.0, 1.0)
C
C PRINT LOG LIK
      WRITE (NCW , 50) ANAME
50   FORMAT ('1'//// ' LOG LIKELIHOOD FOR ALL VALUES OF B AT THE ',
3A3,' LOCUS'//// ' ,
1 21X, '.00', 17X, '.01', 17X, '.02', 17X, '.03', 17X, '.04'//)
      Y= -0.05
      DO 51 IF = 1,96,5
      IL = IF +4
      Y = Y+ .0501
      WRITE (NCW, 52) Y, (ALOG (I), I= IF, IL)
52  FORMAT (3X, F4.2, 3X, 5E20.6)
51  CONTINUE
      Y = 1.00
      WRITE (NCW, 52) Y, ALOG (101)
C
C FIND 2-UNIT SUPPORT LIMITS
      AM1 = 0.0
      AM2 = 1.0
C TO THE LEFT OF EVALUATE
      DO 60 I = 1,100
      IP = IND -I
      IF (IP -1) 70,70,61
61  IF(-ALOG (IP) +AMAX -2.0) 60,62,62
62  AM1 = (IP -1) * .01
      GO TO 70
60  CONTINUE
C TO THE RIGHT
70  DO 80 I= 1,100
      IP = IND +I
      IF (IP -101) 81,90,90
81  IF(-ALOG (IP) +AMAX -2.0) 80,82,82
82  AM2 = (IP -1) * .01
      GO TO 90
80  CONTINUE
90  WRITE (NCW, 91) EVAL, AM1, AM2
91  FORMAT ('0'//3X, 'EVALUATE AND 2-UNIT SUPPORT REGION= ',
1 F4.2, ' (' , F4.2, ', ' , F4.2, ' )' )

```

PAGE 2

CALL EXIT
END

FEATURES SUPPORTED
ONE WORD INTEGERS
IOCS

CORE REQUIREMENTS FOR
COMMON 30 VARIABLES 444 PROGRAM 790

END OF COMPILATION

// DUP

*STORE WS UA GSUPP
CART ID 0010 DB ADDR 57E1 DB CNT 0035

// JOB

LOG DRIVE	CART SPEC	CART AVAIL	PHY DRIVE
0000	0010	0010	0000

GTRIC

V2 M10 ACTUAL 16K CONFIG 16K

// DUP

```
*DELETE          GTRIC
CART ID 0010    DB ADDR 54A0    DB CNT 002E
```

// FOR

*LIST SOURCE PROGRAM

*IOCS(CARD,TYPEWRITER,KEYBOARD,1132 PRINTER,DISK)

*ONE WORD INTEGERS

DIMENSION AALOG (101)

COMMON IPENX,IPENY,IPS,IPC,IPCN,FACR,XM,SIZES,SIZEN,SIZEL,TICK,

*STEP,XSPAC,IPNAB,ITAPE,IB,IBC,IBYTE,IBASE,IMMET

CALL PLTS (7)

CALL FACT (2.0)

CALL GFRAM (0.0,-5.0, 1.0,0.0, 2.0,1.0, 1.0,1.0)

NCP=2

29 NCR =2

NCW = 3

C READ PREVIOUS LOG-LIKS (21 CARDS)

DO 102 IF = 1,96,5

IL = IF +4

READ (NCR, 103) (AALOG (I), I= IF, IL)

103 FORMAT (5E13.6)

102 CONTINUE

READ (NCR, 103) AALOG (101)

READ (NCR, 46) A,B,D,E,F,H,GI ,CODE

46 FORMAT (7F3.0,51X,A3//)

21 WRITE (NCW, 23) A,B,D,E,F,H,GI ,CODE

23 FORMAT (3X,'A', 5X,'B', 5X,'D', 5X,'E', 5X,'F', 5X,'H', 5X,

1 'I'/7F6.1,A6)

C CALCULATE LOG LIK.

DO 24 I = 1,101

31 C = 0.01 * (I-1)

33 BE = 1.0 -C

IF (C) 400,400,401

400 AI = A + GI

DF = D +F

IF (AI) 403,403,404

403 IF (DF) 402,402,404

401 AL = (A+ GI) * ALOG (C/2) + (D+F) * ALOG (C/4)

GO TO 405

402 AL = 0.0

GO TO 405

404 AALOG (I) = -999999.

GO TO 24

405 AALOG (I) = AL + (B+E+H) * ALOG (BE + C/2) +AALOG(I)

24 CONTINUE

C

C PRINT AND PUNCH RESULTS

60 WRITE (NCW, 111)

111 FORMAT ('1LOG-LIKELIHOOD VALUES')

KNT =0

DO 110 IF = 1,96,5

IL = IF +4

```

112 WRITE (NCW, 112) (AALOG (I), I= IF, IL)
   FORMAT (I, 5E20.6)
   KNT = KNT +1
113 WRITE (NCP, 113) (AALOG (I), I= IF, IL), CODE, KNT
110 FORMAT (5E13.6,A4, I2)
   CONTINUE
   WRITE (NCW, 112) AALOG (101)
   KNT =21
215 WRITE (NCP, 215) AALOG (101), CODE, KNT
   FORMAT (E13.6, 52X, A4, I2)
C   FIND MAX LIK
   EVALB = 0.0
   AMAX = AALOG (1)
   DO 121 I= 1,101
   BMAX = AALOG (I)
122 IF (BMAX-AMAX) 121,121,122
   EVALB = 1.0- (I-1) * .01
   AMAX = BMAX
121 CONTINUE
   WRITE (NCW, 124) EVALB
124 FORMAT (I, EVALUATE FOR B = I, F5.3)
C
C   GET LODS
   DO 125 I= 1,101
125 AALOG (I) = AALOG (I) - AMAX
C   PLOT B AGAINST SUPPORT
   KPLOT =1
   DO 130 I = 1,101
   ALOD = AALOG (I)
   X = (1.-.01 * (I-1)) * 2.0
   IF (ALOD + 5.0) 130,239,239
239 IF (KPLOT -1) 240,241,240
241 CALL PLOT (X, ALOD, 3)
   KPLOT =2
   GO TO 130
240 CALL PLOT (X, ALOD, 2)
130 CONTINUE
   CALL EXIT
   END

```

UNREFERENCED STATEMENTS

29	21	31	33	60
----	----	----	----	----

FEATURES SUPPORTED
ONE WORD INTEGERS
IOCS

CORE REQUIREMENTS FOR

COMMON	30	VARIABLES	260	PROGRAM	660
--------	----	-----------	-----	---------	-----

END OF COMPILE

// DUP

*STORE	WS	UA	GTRIC	
CART ID 0010	DB ADDR	54A0	DB CNT	002E

11 JOB

LOG DRIVE	CART SPEC	CART AVAIL	PHY DRIVE
0000	0010	0010	0000

G T R I D

V2 M10 ACTUAL 16K CONFIG 16K

// DUP

```
*DELETE          GTRID
CART ID 0010    DB ADDR 5477    DB CNT 0055
```

```
// FOR
*IOCS(CARD,TYPEWRITER,KEYBOARD,1132 PRINTER,DISK)
*ONE WORD INTEGERS
*LIST SOURCE PROGRAM
```

C

C TRISOMY ANALYSIS FOR DIALLELIC DOMINANT-RECESSIVE SYSTEM.

C INPUT

```

C   CARD 1 = LOCUS NAME, 2 CODES FOR DOM PHEN, 1 CODE FOR RECESS PHEN,
C             1 CODE FOR UNKNOWN PHEN, PROPORTION OF DOM ALLELE.
C             FORMAT (A3, 1X, 4A2, F3.3)

```

C CARDS 2-22

C 101 PREVIOUS LOG LIKELIHOODS TO BE ADDED TO CURRENT RUN (5E13.6)

C CARDS 23-(N-1) DATA CARDS IN THIS ORDER= FAT, MOT,PROP, SIBS, BLANK
C FOR EACH FAMILY

C CARD N= BLANK

C OUTPUT

C PAPER= INPUT CARD NO 1

C LOG-LIK

C NO. OF DOM PROPOSITI IN MATING INDEX ORDER

C NO. OF RECESS PROPOSITI IN MATING INDEX ORDER

C EVALUATE FOR B

C CARDS= NO. OF DOM AND RECESS PROPOSITI IN MATING INDEX ORDER

C 21 PUNCHED CARDS WITH TOTAL LOG-LIK.

C PLOTTER= LIKELIHOOD CURVE. B AGAINST SUPPORT.

C

```

      INTEGER GPHEN,PROB,SIBS
      INTEGER PROBD (9), PROBR(9)
      DIMENSION R(6),AALOG (101)
      COMMON IPENX,IPENY,IPS,IPC,IPCN,FACR,XM,SIZES,SIZEN,SIZEL,TICK,
1STEP,XSPAC,IPNAB,ITAPE,IB,IBC,IBYTE,IBASE,IMMET
      DATA BLK /' ' /
      CALL PLTS (7)
      CALL FACT (2.0)
      NCP =2
      NCR =2
      NCW =3

```

C

C READ LOCUS NAME, PUNCH CODES AND PROPORTION OF DOMINANT ALLELE

```
READ (NCR, 100) CODE, IDOM1, IDOM2, IREC, IBLK, P
```

```
100  FORMAT (A3, 1X, 4A2, F3.3)
```

```
WRITE (NCW, 101) CODE, IDOM1, IDOM2, IREC, IBLK, P
```

```
101  FORMAT (' ', A10, 1X, 4A3, F5.3)
```

$$Q = 1.0 - P$$
$$Q2 = Q * Q$$

2

C READ PREVIOUS LOG-LIKS (21 CARDS)

DO 102 IF = 1,96,5

```

      IL = IF +4
      READ (NCR, 103)(AALOG (I), I= IF, IL)
103  FORMAT (5E13.6)
102  CONTINUE
      READ (NCR, 103) AALOG (101)
C
C  ZEROIZE PROBAND COUNT FOR THIS RUN
      DO 115 I= 1,9
      PROBD (I) =0
115  PROBR (I) = 0
C
C  READ FAMILY PHENOTYPES
C  THE PHENOTYPES ARE TRANSLATED THUS=  DOM=1,  RECESS=0,  UNKNOWN=-1.
C
3    CALL GREAD (FAM, IFAT)
      IF (FAM -BLK) 17,60,17
17   IFAT = GPHEN (FAM, IFAT, IDOM1, IDOM2, IREC)
      CALL GREAD (FAM, MOT)
      MOT = GPHEN (FAM, MOT, IDOM1, IDOM2, IREC)
      CALL GREAD (FAM, PROB)
      PROB = GPHEN (FAM, PROB, IDOM1, IDOM2, IREC)
      IF (PROB ) 2,314,314
314  IF (MOT) 5,400,4
C  SKIP TO NEXT FAMILY IF PROBAND IS UNKNOWN.
2    CALL GREAD (FAM, NOT)
      IF (FAM -BLK) 2,3,2
C
C  FIND MATING INDEX
C  INDEX MOT FAT
C   1      1      1
C   2      1      0
C   3      1     -1
C   4     -1      1
C   5     -1      0
C   6     -1     -1
C   7      0      1
C   8      0      0
C   9      0     -1
C
400  IF (IFAT ) 403,402,401
401  INDX =7
      GO TO 10
402  INDX =8
      GO TO 10
403  INDX =9
      GO TO 10
4    IF (IFAT ) 6,7,8
8    INDX = 1
      GO TO 10
7    INDX = 2
      GO TO 10
6    INDX =3
      GO TO 10
5    IF (IFAT ) 11,12,13
13  INDX = 4
      GO TO 10
12  INDX =5
      GO TO 10
11  INDX =6

```

```

10     IF (PROB ) 2,116,117
117    PROBD (INDX) = PROBD (INDX ) +1
      GO T O 118
116    PROBR (INDX ) = PROBR (INDX ) +1
C
C  READ SIBS PHENOTYPES
118    SIBS =0
C  SKIP TO NEXT FAMILY IF MOTHER IS RECESSIVE.
      IF (MOT) 18,2,18
18     CALL GREAD (FAM, KID)
      IF (FAM -BLK) 15,14,15
16     SIBS = -1
216    CALL GREAD (FAM, NOT)
      IF (FAM - BLK) 216,14,216
15     KID = GPHEN (FAM, KID, IDOM1, IDOM2, IREC )
      IF (KID) 18,16,20
20     SIBS = SIBS +1
      GO TO 18
C
C  SET UP LIKELIHOOD FUNCTION
14     RSIB = SIBS
      DO 71 I = 1,101
        C = (I-1) * .01
        GO TO(41,42,41,41,42,41),INDX
C  CALCULATE R(1)
41     IF (SIBS) 43,44,44
43     PHET = 1.0
      GO TO 45
44     DEN = 4.0 ** (RSIB-1.0)
        1 + 3.0 * Q2 * (3.0 ** (RSIB-1.0) - 4.0 ** (RSIB-1.0) )
        2 + Q*2.0 ** (2.0 *RSIB -1.0)
      PHET = 3.0 ** RSIB * Q2 / DEN
45     R(1)= C* PHET *0.25
      GO TO (70,42,42,54,42,42),INDX
C  CALCULATE R(2)
42     IF (SIBS) 46,47,47
46     PHET = 1.0
      GO TO 48
47     PHET = Q / (Q + (2.0 ** (RSIB -1.0)) *P)
48     R (2) = C * PHET * 0.5
      GO TO (70,70,53,54,55,54), INDX
C  CALCULATE R(3)
53     R(3)= (1.0- Q2) * R(1) + Q2* R(2)
      GO TO (70,70,70,54,55,54), INDX
C  CALCULATE R(4)
54     PHET = Q / (Q + (2.0 ** (RSIB -1.0)) *P)
      R(4) = (1.0-Q2) * R(1) + Q2 * PHET /2
      GO TO (70,70,70,70,55,55), INDX
C  CALCULATE R(5)
55     R(5)= (1.0 -Q2) * R(2) + Q2
      IF (INDX -5) 70,70,56
C  CALCULATE R(6)
56     R(6)= (1.0 -Q2) * R(4) + Q2 * R(5)
C
C  COMPUTE LOG-LIKELIHOOD
70     IF (PROB) 2,57,58
57     IF (R(INDX)) 300,300,301
300    AALOG (I) = -999999.
      GO TO 71
301    AALOG(I) =  ALOG( R(INDX)) +  AALOG (I)
      GO TO 71

```

```

58 IF (1.0-(R(INDX))) 300,300,303
303 AALOG (I) = ALOG (1.0 - (R(INDX))) + AALOG (I)
71 CONTINUE
GO TO 3

C PRINT AND PUNCH RESULTS
60 WRITE (NCW, 111)
111 FORMAT ('LOG-LIKELIHOOD VALUES')
WRITE (NCP, 420) PROBD, PROBR, CODE
420 FORMAT (9I3, 3X, 9I3, 18X, A4)
KNT = 0
DO 110 IF = 1,96,5
  IL = IF + 4
  WRITE (NCW, 112) (AALOG (I), I = IF, IL)
112 FORMAT (' ', 5E20, 6)
  KNT = KNT + 1
  WRITE (NCP, 113) (AALOG (I), I = IF, IL), CODE, KNT
113 FORMAT (5E13, 6, A4, I2)
110 CONTINUE
  WRITE (NCW, 112) AALOG (101)
  KNT = 21
  WRITE (NCP, 215) AALOG (101), CODE, KNT
215 FORMAT (E13, 6, 52X, A4, I2)
  WRITE (NCW, 120) PROBD, PROBR
120 FORMAT (' PROPOSITI IN ORDER OF MATING INDEX = ', 9I5)
C
C FIND MAX LIK
  EVALB = 0.0
  AMAX = AALOG (1)
  DO 121 I = 1,101
    BMAX = AALOG (I)
    IF (BMAX - AMAX) 121,122,122
122 EVALB = 1.0 - (I-1) * .01
    AMAX = BMAX
121 CONTINUE
  WRITE (NCW, 124) EVALB
124 FORMAT (' EVALUATE FOR B = ', F5.3)
C
C GET LODS
  DO 125 I = 1,101
125 AALOG(I) = AALOG (I) - AMAX
  C PLOT B AGAINST SUPPORT
    KPLOT = 1
    DO 130 I = 1,101
      ALOD = AALOG (I)
      X = (1. - .01 * (I-1)) * 2.0
      IF (ALOD + 5.0) 130,239,239
239 IF (KPLOT - 1) 240,241,240
241 CALL PLOT (X, ALOD, 3)
      KPLOT = 2
    GO TO 130
  CALL PLOT (X, ALOD, 2)
130 CONTINUE
  CALL GFRAM (0.0, -5.0, 1.0, 0.0, 2.0, 1.0, 1.0, 1.0)
  CALL EXIT
  END

```

FEATURES SUPPORTED
ONE WORD INTEGERS
IOCS

SUBROUTINE HHDW (HAW, IHA, HBW, IHB, DABW, IDAB)

00007180

00007190

00007200

C ABSTRACT

GIVEN 2 W-ARRAYS, HAW, HBW, REPRESENTING HAPLOID SETS

00007210

THE ARRAY DABW IS FORMED REPRESENTING THE DIPLTYPE A

00007220

FROM THE 2 HAPLOIDS.

00007230

00007240

C ARGUMENTS

HAW - INTEGER ARRAY IN W-FORM

00007250

HBW - INTEGER ARRAY IN W-FORM

00007260

DABW - INTEGER ARRAY IN W FORM

00007270

00007280

C USAGE

GENERAL

00007290

00007300

C REQUIREMENTS

ISHPU, RNKBW

00007310

00007320

00007330

C*****00007340

INTEGER HAW (IHA), HBW (IHB), DABW (IDAB)

00007350

NA=HAW(1)

00007360

NB=HBW(1)

00007370

K=2

00007380

DABW(K)=10000

00007390

K=3

00007400

DO 1 I=5,NA,2

00007410

AA=HAW(I+1)

00007420

DO 2 J=5,NB,2

00007430

K=K+2

00007440

DABW(K)=ISHPU(2,HAW(I),HBW(J))

00007450

C TRISOMY - A=AA*AB/100.+0.5, LINKAGE - A=AA*AB/10000.+0.5 HHDW

00007460

PROP = AA * HBW (J+1) /10.0

00007470

IF (PROP.LE.1.0) GO TO 3

00007480

DABW (K+1) = PROP+.5

00007490

GO TO 2

00007500

3 DABW (K+1) = PROP + 1.0

00007510

2 CONTINUE

00007520

1 CONTINUE

00007530

DABW(1)=K+1

00007540

DABW (3) = 0

00007550

DABW (4) = 0

00007560

RETURN

00007570

END

00007580

FUNCTION ICOMP(IB,MASK)

ICOMP=0

IX=0

J=4

DO 1 K=5,32

L=0

CALL ZBIT(MASK,K,K,L,32)

IF(L-1) 1,2,1

2 J= J+1

CALL ZBIT (IB,K,K,IX,J)

1 CONTINUE

K= 36-J

CALL ZBIT(IX,5,J,ICOMP,K)

RETURN

END

00007590

00007600

00007610

00007620

00007630

00007640

00007650

00007660

00007670

00007680

00007690

00007700

00007710

00007720

00007730

ICOMP

FUNCTION ILEQ(I)

00007740

00007750

00007760

00007770

00007780

00007790

00007800

00007810

00007820

00007830

00007840

00007850

00007860

00007870

00007880

00007890

00007900

00007910

00007920

C

C

C

C

C

C

C

C

C

C

C

C

C

ABSTRACT

THE I AND L PARTS OF THE ARGUMENT WORD I ARE PUT INTO
L AND L PARTS OF THE RETURN FUNCTION WHICH IS INITIAL

ARGUMENTS

I - INTEGER WORD

USAGE

GENERAL

REQUIREMENTS

MVBIT

ILEQ=0

CALL ZBIT (I,5,11,ILEQ,19)

CALL ZBIT (I,26,32,ILEQ,26)

RETURN

END

	SUBROUTINE ILLEG (LOC,LOCNAM,MAR,MARRO,MARCO,NIND,LCA)	00007930
	DIMENSION MAR (MARRO,MARCO)	00007940
	IF(MAR(NIND-5,LOC).LT.0.OR.MAR(NIND-2,LOC).LT.0)GO TO 9	00007950
	NKID=NIND-6	00007960
	L=0	00007970
	M=0	00007980
	CALL ZBOOL (MAR(NIND-5,LOC), MAR(NIND-2,LOC), IPAR,7)	00007990
	DO 1 I=1,NKID	00008000
	IF(MAR(I,LOC).LT.0)GOTO 1	00008010
	DO2 K= 26,32	00008020
C	CHECK EACH TEST SEPARATELY	00008030
	CALL ZBIT (IPAR,K,K,L,32)	00008040
	IF (L.EQ.1) GO TO 2	00008050
	CALL ZBIT (MAR(I,LOC),K,K,M,32)	00008060
	IF(M.EQ. 0) GO TO 2	00008070
	WRITE (2,200) I, LOCNAM	00008080
200	FORMAT (' CHILD', I3, ' APPEARS TO BE ILLEGITIMATE AT THE ',	00008090
	*A4, 'LOCUS AND WILL BE IGNORED')	00008100
	DO 3 LC= 1,LCA	00008110
3	MAR (I,LC) = -8	00008120
C	MAKE ALL CHILDS PHENOTYPES -8	00008130
	GO TO 1	00008140
2	CONTINUE	00008150
1	CONTINUE	00008160
9	RETURN	00008170
	END	00008180


```

SUBROUTINE INWIN                                00008190
INTEGER CONB /' '/, CON7/'XX7'/, CON8/'XX8'/, CON9/'XX9'/, 00008200
* ZERO/'ZER'/, RH6/'RH6'/, GM/'GM'/           00008210
DIMENSION ICOL (70)                             00008220
DIMENSION IRH (6), IGM (12)                     00008230
DIMENSION MREL(150,3), ITRACK(150)             00008240
INTEGER AR (70)                                 00008250
DIMENSION IDENT (26)                           00008260
INTEGER HWS ( 770) , AP(430), JP(430)          00008270
DIMENSION MAR ( 26,70), MARK (150,70)         00008280
DIMENSION LOC(80), ICLOC(70), JPST(81)        00008290
INTEGER AZERO/'0'/
COMMON NREC,NRECA,NRECB,NRECC,NCA,NCB,NCC,NCD,NCE,NCR,NCW 00008300
1,LCA,LCB,LCC,LCD,LCE                          00008310
COMMON NL, NIND,MAR, HWS, LOC, JP, AP, JPST, ICLOC 00008320
COMMON IWIN, JWIN,KWIN,NWIN,MARRO,MARCO,IPCW1     00008330
EQUIVALENCE(KINN,NRECB),(NKID,NCE) ,(NRECA,ISTUN) 00008340
IIND=0
IQ=0
MAKRO = 150                                     00008350
GO TO (800,722,8 ),NCA                        00008360
C                                              00008370
C                                              00008380
C IF NCA.EQ.1 INITIALIZE POPN.                 00008390
C READ TO SEE IF CARD 2 AND/OR 3 ARE TO BE READ 00008400
800 READ (NCR,704) ICAR2,ICAR3                 00008410
704 FORMAT (2I1)                               00008420
C READ WHICH MARKERS ARE TO BE ANALYSED        00008430
READ (NCR ,700) ICOL                          00008440
700 FORMAT ( 70I1)                             00008450
WRITE (NCW ,922) ICOL                         00008460
922 FORMAT ('1', 70I1)                        00008470
LCA = 0                                         00008480
DO 701 N= 1,70                                00008490
701 LCA = LCA + ICOL (N)                      00008500
C READ TITLES OF MARKERS TO BE ANALYSED, AS IN DICTIONARY. 00008510
READ(NCR,702)(ICLOC(N),N= 1,LCA)              00008520
702 FORMAT (20(A3,1X))                        00008530
WRITE (NCW,101) LCA, (ICLOC(I),I=1,LCA)       00008540
101 FORMAT ('0 THE', 13,' LOCI ANALYSED FOR THE FOLLOWING FAMILIES ARE 00008550
* ' ,18A4/' ' ,52X,18A4/' ' ,52X,18A4/' ' ,52X,18A4/' ' ,52X,8A4) 00008560
NCA =2                                         00008570
C                                              00008580
C                                              00008590
C IF NCA.EQ.2 INPUT NEW KINDRED               00008600
722 NCA =3                                     00008610
NRECC =0                                       00008620
KIND =0                                       00008630
C ZEROIZE NUMAB, MARK.                        00008640
KO = NUMAB (ZERO,ZERO)                       00008650
DO 805 KO= 1,150                             00008660
DO 806 KU= 1,70                              00008670
806 MARK (KO,KU) =0                          00008680
805 CONTINUE                                 00008690
C                                              00008700
C READ CARD 1                                00008710
705 READ(NCR,703,END=860) IKAR,ISTUD,KIN,MYIND,MYFAT,MYMOT,AR(17), 00008720
* AR(1), AR(2), AR(3), (IRH(KO),KO= 1,6), (AR(KO),KO= 5,16) 00008730
703 FORMAT (I1,A2,A3,3A4,2X,A1,11X,A3,A4,A2,6A1,1X,A4,2X,2A2, 00008740

```

	*2(2X,A2),7A2)	00008750
	IF (KIN -CONB) 710,802,710	00008760
710	KINN = KIN	00008770
	ISTUN= ISTUD	00008780
	IF (IKAR-1) 711,818,711	00008790
818	IF (KIN.NE.CON7.AND. KIN.NE.CON8.AND. KIN.NE.CON9) GO TO 807	00008800
	IF (KIN.EQ.CON7) NCA =7	00008810
	IF (KIN.EQ.CON8) NCA =8	00008820
	IF (KIN.EQ.CON9) NCA =9	00008830
	GO TO 9	00008840
860	NCA=9	00008850
	GO TO 9.	00008860
807	CALL RHBOO (IRH, AR (4))	00008870
	NIND = NUMAB (KIN,MYIND)	00008880
	MREL (NIND,1) = NUMAB (KIN,MYFAT)	00008890
	MREL (NIND,2) = NUMAB (KIN,MYMOT)	00008900
	C COUNT THE NUMBER OF CARS READ IN	
	IIND=IIND+1	
	C DETERMINE THE HIGHEST ASSIGNED NUMBER WITHIN THE FAMILY	
	IQ=MAXO(IQ,NIND,MREL(NIND,1),MREL(NIND,2))	
	C	00008910
	C READ CARD 2	00008920
706	IF (ICAR2-2) 708,707,708	00008930
707	READ(NCR,709)IKAR ,ISTUN, KINN,MYINN, (AR(KO),KO=18,46),AR(69),AR(00008940
	*70)	00008950
709	FORMAT (I1,A2,A3,A4,5A2,2X,26A2)	00008960
	IF (IKAR .EQ.ICAR2.AND. ISTUN.EQ.ISTUD.AND. KINN.EQ.KIN.AND.	00008970
	*MYINN.EQ.MYIND) GO TO 708	00008980
711	CONTINUE	
	ISTUN =1	00009000
820	READ (NCR,777) KIN	00009010
777	FORMAT (3X,A3)	00009020
	ISTUN = ISTUN +1	00009030
	IF (KIN .NE.CONB) GO TO 820	00009040
699	CONTINUE	
	WRITE (NCW,712) ISTUN	00009050
712	FORMAT ('1',5X,'MISTAKE IN IDENTIFICATION OR IN DATA CARD ORDER CA	00009060
	*USED',I5, ' DATA CARDS TO BE SKIPPED'/' KINDRED NOT ANALYSED	00009070
	*'/ ' TRY AGAIN, GOOD LUCK.')	00009080
	NCA =2	
	GO TO 9	00009090
	C	00009100
	C READ CARD 3	00009110
708	IF (ICAR3-3) 721,713,721	00009120
713	READ(NCR,715) IKAR,ISTUN, KINN, MYINN, (AR(KO),KO= 47,58),	
	*IGM(10), IGM(1), IGM(2), IGM(3), IGM(12), IGM(11),IGM(4),IGM(6),	
	*IGM(8), IGM(9),IGM(5),AR(64),AR(59),AR(61),(AR(KO),KO=11,14),	
	*AR(62),AR(63),(AR(KO),KO=66,68), AR(10)	
715	FORMAT(I1,A2,A3,A4,12A2,4A1,1X,A1,1X,A1,1X,2A1,1X,2A1,1X,A1,2X,	
	*A2,2X, A2, 2X, A2, A1, A2, A1, A2, A1, 4A2)	
	IGM(7) =AZERO	
	IF (IKAR .NE.ICAR3.OR. ISTUN.NE.ISTUD.OR. KINN.NE.KIN.OR.	00009160
	*MYINN.NE.MYIND) GO TO 711	00009170
	CALL GMB00 (IGM, AR(60))	00009180
	C	00009190
	C	00009200
	C COMPRESS AR ACCORDING TO ICOL	00009210
721	MZ=1	00009220
	DO 719 N= 1,70	00009230
	IF (ICOL (N)) 720,719,720	00009240
720	AR (MZ) = AR(N)	00009250
	MZ = MZ +1	00009260
719	CONTINUE	00009270
	KIND = KIND +1	00009280
	C TRANSFER AR INTO MARK	00009290

DO 803	KO = 1,LCA	00009300
803	MARK(NIND,KO) = AR (KO)	00009310
	ITRACK (NIND) =MYIND	00009320
	GO TO 705	00009330
802	CONTINUE	
C	CHECK THE HIGHEST NUMBER AND THE CARDS READ	
	IF(IQ.EQ.IIND) GOTO 688	
	ISTUN=0	
	GOTO 699	
688	CONTINUE	
	CALL FAMGAL(MREL,MAKRO,KIND)	
804	JJ=1	00009350
C		00009360
C		00009370
C	IF NCA.EQ. 3 FIND NUCLEAR FAMILY	00009380
C	INPUT BLANKS IN IDENT.	00009390
8	DO 900 KO= 1,26	00009400
900	IDENT (KO) = CONB	00009410
	DO 6 I=JJ,KIND	00009420
C	FIND SIBS	00009430
	IF(MREL(I,1).LT.0.OR.MREL(I,3).LE.0)GOTO 6	00009440
C	NP IS THE NO. OF INPUT INDIV. IN A NUCLEAR FAMILY.	00009450
4	NP=1	00009460
	IKSIB =I	00009470
41	DO 40 J=1,LCA	00009480
	IDENT(NP) = ITRACK (IKSIB)	00009490
40	MAR(NP,J)=MARK(IKSIB,J)	00009500
	MREL (IKSIB,1) = -MREL (IKSIB ,1)	00009510
	IF (MREL (IKSIB,3) .LE.0) GO TO 5	00009520
	IKSIB = MREL (IKSIB ,3)	00009530
	NP=NP+1	00009540
	GOTO 41	00009550
C		00009560
C	FIND PARENTS	00009570
5	NKID=NP	00009580
	DO 50 K=1,2	00009590
	L=MREL(I,K)	00009600
	IF(L.LT.0)L=-L	00009610
	NP=NP+1	00009620
	IF (L.LE.0) GO TO 50	00009630
	IDENT (NP) = ITRACK (L)	00009640
	DO 51 J=1,LCA	00009650
51	MAR(NP,J)=MARK(L,J)	00009660
C		00009670
C	FIND GRAND-PARENTS	00009680
	DO 500 KK=1,2	00009690
	LL=MREL(L,KK)	00009700
	IF(LL.LT.0)LL=-LL	00009710
	NP=NP+1	00009720
	IF(LL.LE.0)GOTO 500	00009730
	IDENT (NP) = ITRACK (LL)	00009740
	DO 510 J=1,LCA	00009750
510	MAR(NP,J)=MARK(LL,J)	00009760
500	CONTINUE	00009770
50	CONTINUE	00009780
C		00009790
	JJA = I	00009800
	NRECC = NRECC+1	00009810
	NIND = NKID +6	00009820
	WRITE (NCW ,880) NRECA,NRECB,NRECC	00009830
880	FORMAT ('1',6X,'STUDY KINDRED NUCLEAR FAMILY'/9X,A2,A10,I13//)	00009840

	KQ=NKID +1	00009850
	WRITE (NCW,872)(IDENT(KY),KY=KQ,NP), (IDENT (KY),KY= 1,NKID)	00009860
872	FORMAT ('0', 9X,'PHENOTYPES AS INPUT ON DATA CARDS'//	00009870
	*' ',5X,'FAT PGF PGM MOT MGF MGM SIBS ...'/' ' ',3X,25A5)	00009880
	WRIT E (NCW,871) CONB	00009890
	DO 920 KO = 1,LCA	00009900
	IF (ICLOC (KO) -RH6) 901,920,901	00009910
901	IF (ICLOC(KO)-GM) 870,920,870	00009920
870	WRITE (NCW,871) ICLOC (KO),(MAR(KY,KO),KY=KQ,NP),(MAR(KY,KO),	00009930
	*KY=1,NKID)	00009940
871	FORMAT (' ',A3,25A5,A4)	00009950
920	CONTINUE	00009960
C		00009970
907	CALL TRANS (NP)	00009980
C		00009990
	WRITE (NCW,876)(IDENT(KY),KY=KQ,NP), (IDENT (KY),KY= 1,NKID)	00010000
876	FORMAT (///10X,'PHENOTYPES TRANSLATED IN DENARY FORM'//	00010010
	*' ',5X,'FAT PGF PGM MOT MGF MGM SIBS ...'/' ' ',3X,25A5)	00010020
	WRIT E (NCW,871) CONB	00010030
	DO 874 KO= 1,LCA	00010040
874	WRITE (NCW,875) ICLOC (KO),(MAR(KY,KO),KY=KQ,NP),(MAR(KY,KO),	00010050
	*KY=1,NKID)	00010060
875	FORMAT (' ',A3,I4,25I5)	00010070
C		00010080
	GO TO 851	00010090
6	CONTINUE	00010100
	NCA =2	00010110
851	CONTINUE	00010120
	JJ= JJA	00010130
9	RETURN	00010140
	END	00010150

FUNCTION IQSH(I,J)	00010160
IQSH=0	00010330
CALL ZBIT (I,26,32,IQSH,19)	00010340
CALL ZBIT(J,26,32,IQSH,26)	00010350
RETURN	00010360
END	00010370

ISHPU

FUNCTION ISHPU(N,I,J)	00010380
NCW=2	00010610
IF(N-1)8,1,2	00010620
8 CONTINUE	00010630
ISHPU=-1	00010640
WRITE(NCW,300)I	00010650
300 FORMAT(1H //'INCORRECT SHIFT VALUE USED IN A CALL OF SHIPW/ISHPU	00010660
1 - SHOULD BE 1 OR 2, IT WAS',I6)	00010670
GO TO 4	00010680
1 CONTINUE	00010690
ISHPU=J	00010700
CALL ZBIT (I,12,18,ISHPU,5)	00010710
CALL ZBIT (I,26,32,ISHPU,19)	00010720
GO TO 4	00010730
2 CONTINUE	00010740
ISHPU=NEQ(J)	00010750
CALL ZBIT (I,19,32,ISHPU,5)	00010760
RETURN	00010770
END	00010780

JHOM

FUNCTION JHOM (IW,NN,IPH)	00010790
DIMENSION IW (NN)	00010800
IF(IPH)5,4,1	00010810
1 N=IW(1)	00010820
IF(IW(N-1))5,5,2	00010830
2 DO 3 I=5,N,2	00010840
IF(IPH-IW(I))3,4,3	00010850
3 CONTINUE	00010860
5 JHOM=1	00010870
RETURN	00010880
4 JHOM=0	00010890
RETURN	00010900
END	00010910

FUNCTION KJEQ(I)

KJEQ=0

CALL ZBIT (I,19,25,KJEQ,19)

CALL ZBIT (I,12,18,KJEQ,26)

RETURN

END

00010920

00011080

00011090

00011100

00011110

00011120

KJEQ

```

C*****MAIN PROGRAM LLDIC*****00018030
C                                00018040
C ABSTRACT      INPUTS DICTIONARY DATA FROM CARD AND STORES ON DISC 00018050
C                                00018060
C      INTEGER ABIR,AGAL,ALOA,ANY                                00018160
C      INTEGER OCTA,ALIT,ALAB                                00018170
C      INTEGER ALOC                                00018180
C      DIMENSION TITLE(25)                                00018190
C      DIMENSION LAR(15)                                00018200
C      DIMENSION ALOC(40)                                00018210
C      REWIND 10                                00018220
C      NLOC=1                                00018230
C      NREC=1                                00018240
C      NCR= 5                                00018250
C      NCW= 6                                00018260
30 READ (NCR,406)NT,ALOC(NLOC),ITYPE,ILOC, OCTA,TITLE,LABG,LABN,LABB,00018270
1LABH                                00018280
406 FORMAT (I3,1X,A3,2X,A1,A2,6X,A2,25A2,3I2,I3)                                00018290
WRITE(NCW,301)NT,ALOC(NLOC),ITYPE,ILOC, OCTA,TITLE,LABG,LABN,LABB,00018300
1LABH                                00018310
WRITE(10)NT,ALOC(NLOC),ITYPE,ILOC,OCTA,TITLE,LABG,LABN,LABB,00018320
1LABH                                00018330
301 FORMAT ( ' ',1X,I2,1X,A3,2X,A1,A2,5X,A2,25A2,I2,2I2,I3)                                00018340
NREC = NREC +1                                00018350
IF (NT) 30,30,401                                00018360
C READS LOCUS CARD                                00018370
1 READ (NCR,406)NT,ALOC(NLOC),ITYPE,ILOC, OCTA,TITLE,LABG,LABN,LABB,00018380
1LABH                                00018390
WRITE (NCW,400) OCTA,TITLE,LABH                                00018400
400 FORMAT ('O'/'O',2X,T18,A2,25A2,T73,I1)                                00018410
WRITE(10)NT,ALOC(NLOC),ITYPE,ILOC,OCTA,TITLE,LABG,LABN,LABB,00018420
1LABH                                00018430
NREC = NREC+1                                00018440
401 WRITE (NCW,402)                                00018450
402 FORMAT (' PHENOTYPES=')                                00018460
IF(NT) 9,9,3                                00018470
C READS PHENOTYPE                                00018480
3 READ (NCR,303)NTT,ALOC(NLOC),ITYPE,ILOC,FREQ, OCTA,ALIT,00018490
1 (LAR(I),I=1,15),AGAL,ANY,ABIR,ALOA                                00018500
WRITE (NCW,403) NTT,ALOC(NLOC), OCTA,ALIT,(LAR(I),I=1,15),ALOA 00018510
403 FORMAT (I5,1X,A3,8X,A2,1X,A4,15(2X,I1),5X,A4)                                00018520
NREC = NREC+1                                00018530
WRITE(10)NTT,ALOC(NLOC),ITYPE,ILOC,FREQ,OCTA,ALIT,00018540
1 (LAR(I),I=1,15),AGAL,ANY,ABIR,ALOA                                00018550
IF(NTT)20,20,3                                00018560
C READS GREEN CARDS                                00018570
20 READ (NCR,406)NT,ALOC(NLOC),ITYPE,ILOC, OCTA,TITLE,LABG,LABN,LABB,00018580
1LABH                                00018590
WRITE(NCW,301)NT,ALOC(NLOC),ITYPE,ILOC, OCTA,TITLE,LABG,LABN,LABB,00018600
1LABH                                00018610
WRITE (NCW,404)                                00018620
404 FORMAT (' HAPLOTYPES=')                                00018630
NREC = NREC+1                                00018640
WRITE(10)NT,ALOC(NLOC),ITYPE,ILOC,OCTA,TITLE,LABG,LABN,LABB,00018650
1LABH                                00018660
C READS HAPLOTYPE                                00018670

```

4	READ (NCR,303)NTT,ALOC(NLOC),ITYPE,ILOC,FREQ, OCTA,ALIT,	00018680
1	(LAR(I),I=1,15),AGAL,ANY,ABIR,ALOA	00018690
	WRITE(NCW,405) NTT,ALOC(NLOC),FREQ,OCTA,ALIT,(LAR(I),I=1,15)	00018700
405	FORMAT (I5,1X,A3,1X,F6.4,1X,A2,1X,A4,15(2X,I1))	00018710
	NREC = NREC+1	00018720
	WRITE(10)NTT,ALOC(NLOC),ITYPE,ILOC,FREQ,OCTA,ALIT,	00018730
1	(LAR(I),I=1,15),AGAL,ANY,ABIR,ALOA	00018740
	IF(NTT)1,1,4	00018750
303	FORMAT(1X,I2,1X,A3,2X,A1,A2,F6.4 ,A2,1X,A3,1X,15(2X,I1),3A2,A4)	00018760
9	WRITE(NCW,304) NREC	00018770
304	FORMAT(10X,5HNREC=,I5)	00018780
	ENDFILE 10	00018790
	STOP	00018800
	END	00018810

```
FUNCTION LMARK(I,J)
  LMARK=-1
  IF(I)1,2,2
1 RETURN
2 IF(J)1,3,3
3 LMARK=IQSH(I,J)
  RETURN
END
```

```
00011130
00011320
00011330
00011340
00011350
00011360
00011370
00011380
```

LMARK

	INTEGER AR (2852),BR(2852)	00030530
	DIMENSION TABLE (2852, 5), ALOD(5), KOUNT(2852)	00030540
	INTEGER BLK /' 1'/	00030550
	INTEGER ZER /'ZER'/, T/'T'/	00030560
	INTEGER P/'P'/,M/'M'/, INT/'I'/	00030570
	COMMON AR,BR	00030580
	NCR =7	
	NCW = 6	00030600
	READ (5 ,31) IADD	
31	FORMAT (A1)	00030620
	I = NUMAB (ZER,ZER)	00030630
	DO 6 I= 1,2852	00030640
	DO 7 J= 1,5	00030650
7	TABLE (I,J) = 0.0	00030660
	KOUNT (I) =0	00030670
6	CONTINUE	00030680
	IBIG =0	00030690
18	READ (NCR,4,END=5) NAMA,NAMB, ALOD,NCROS,NSCOR	00030700
4	FORMAT (7X,2A3,5F8.3,A1,18X,I4)	00030710
	IF (IADD-T) 34,33,34	00030720
34	IF (NCROS.NE.IADD) GO TO 18	00030730
C	TO BE REMOVED IN FORTRAN G	00030740
33	IF (NAMA -BLK) 20,5,20	00030750
20	IF (NAMA -NAMB) 8,8,9	00030760
9	ISPAR = NAMA	00030770
	NAMA = NAMB	00030780
	NAMB = ISPAR	00030790
8	I= NUMAB (NAMA,NAMB)	00030800
C	SKIP ZERO SCORES.	00030810
	DO 80 JAM =1,5	00030820
	IF (ALOD(JAM))81,80,81	00030830
80	CONTINUE	00030840
	GO TO 18	00030850
81	DO 32 J= 1,5	00030860
32	TABLE (I,J) = TABLE (I,J) +ALOD(J)	00030870
	IF (NSCOR)59,58,59	00030880
58	KOUNT(I)= KOUNT (I)+1	00030890
	GO TO 60	00030900
59	KOUNT(I)=KOUNT(I)+NSCOR	00030910
60	IF (I-IBIG) 18,18,17	00030920
17	IBIG =I	00030930
	GO TO 18	00030940
5	IF (IADD -P) 70,37,70	00030950
70	IF (IADD -M) 71,36,71	00030960
71	IF (IADD - INT) 39,38,39	00030970
36	WRITE (NCW,35)	00030980
35	FORMAT ('1'/'0',11X,'LOCI',19X,' MATERNAL LOD SCORES ',10X,	00030990
	*'NO. OF SCORES'//)	00031000
	GO TO 40	00031010
37	WRITE (NCW,41)	00031020
41	FORMAT ('1'/'0',11X,'LOCI',19X,' PATERNAL LOD SCORES ',10X,	00031030
	*'NO. OF SCORES'//)	00031040
	GO TO 40	00031050
38	WRITE (NCW,42)	00031060
42	FORMAT ('1'/'0',11X,'LOCI',19X,'INTERCROSS LOD SCORES',10X,	00031070

	*'NO. OF SCORES'//)	00031080
	GO TO 40	00031090
39	WRITE (NCW,43)	00031100
43	FORMAT ('1'// '0',11X,'LOCI',19X,' TOTAL LOD SCORES ' ,10X,	00031110
	*'NO. OF SCORES'//)	00031120
40	IBIF = IBIG -1	00031130
57	DO 50 I= 1,IBIF	00031140
	J= I+1	00031150
53	IF (AR(I) - AR(J)) 50,54,51	00031160
54	IF (BR(I) -BR(J)) 50,50,51	00031170
51	ISPAR = AR(I)	00031180
	AR (I) = AR(J)	00031190
	AR (J) = ISPAR	00031200
	ISPAR = BR(I)	00031210
	BR (I) = BR(J)	00031220
	BR (J) = ISPAR	00031230
	ISPAR = KOUNT (I)	00031240
	KOUNT (I) = KOUNT (J)	00031250
	KOUNT (J) = ISPAR	00031260
	DO 52 JAN = 1,5	00031270
	ALOD (JAN) = TABLE (I,JAN)	00031280
	TABLE (I,JAN) = TABLE (J,JAN)	00031290
52	TABLE (J,JAN) = ALOD (JAN)	00031300
	GO TO 40	00031310
50	CONTINUE	00031320
56	DO 45 I = 1,IBIG	00031330
45	WRITE (NCW,49) AR(I),BR(I), (TABLE (I,J), J= 1,5) ,KOUNT(I)	00031340
49	FORMAT (10X,2A4,2X,5F9.3,I7)	00031350
	STOP	00031360
	END	00031370

FUNCTION MEQ(I)	00011390	MEQ
MEQ=0	00011540	
CALL ZBIT (I,5,18,MEQ,19)	00011550	
RETURN	00011560	
END	00011570	


```

C*****MAIN PROGRAM MLINK*****00000830
  DIMENSION ITH(5) 00000840
  DIMENSION LOC(80),ICLOC(70),JPST(81) 00000850
  INTEGER HWS ( 770) , AP(430), JP(430) 00000860
  DIMENSION MAR (26,70) 00000870
  COMMON NREC,NRECA,NRECB,NRECC,NCA,NCB,NCC,NCD,NCE,NCR,NCW 00000880
  1,LCA,LCB,LCC,LCD,LCE 00000890
  COMMON NL,NIND,MAR,HWS,LOC 00000900
  1,JP,AP,JPST 00000910
  2,ICLOC 00000920
  COMMON IWIN, JWIN,KWIN,NWIN,MARRO,MARCO,IPCW1 00000930
C 00000940
  KWIN = 770 00000950
  IWIN =24 00000960
  JWIN = 3204 00000970
  NWIN = 84 00000980
  IPCW1 = 44 00000990
  MARRO=26 00001000
  MARCO =70 00001010
C 00001020
  NCA =2 00001030
  NCW = 2 00001040
  NCR =1 00001050
  READ (NCR,404) ITH ,LCB 00001060
404 FORMAT (5(1X,I2),4X,A3) 00001070
  READ (NCR,405) NCD,NCB 00001080
405 FORMAT (3X,A3,I6) 00001090
  NCB = NCB-1 00001100
  DO 781 I=1,KWIN 00001110
781 HWS(I)=0 00001120
  2 CALL RDICT 00001130
  WRITE (NCW,782) 00001140
782 FORMAT ('1',6X, 'THE MENDELIAN SYSTEMS AND THEIR ALLELE PROPORTION
*S ARE AS FOLLOWS') 00001150
  NF =1 00001160
  DO 780 I= 1,80 00001170
  NA = HWS (NF) 00001180
  NO = NA + NF-1 00001190
  IF (NA) 779,777,779 00001200
779 WRITE (NCW,778) (HWS(J),J=NF,NO) 00001210
778 FORMAT (' ',2I5,A5,2I5) 00001220
780 NF = NF+NA 00001230
777 NCA =1 00001240
  1 CONTINUE 00001250
  DO 4 I=1,26 00001260
  DO 5 J= 1,70 00001270
  5 MAR(I,J)=-1 00001280
  4 CONTINUE 00001290
  CALL INWIN 00001300
C IF NCA .EQ. 2 INPUT NEW KINDRED 00001310
C IF NCA .EQ. 3 ANALYSE NUCLEAR FAMILY 00001320
C IF NCA .EQ. 7 INITIALIZE NEW POPN. 00001330
C IF NCA .EQ. 8 UPDATE FREQ. AND INITIALIZE NEW POPN. 00001340
C IF NCA .EQ. 9 END 00001350
  GO TO (9,1,406,9,9,9,777,2,9),NCA 00001360
  00001370

```

PAGE 2

406	CALL BLINK (ITH)	9	00001380
	GO TO 1		00001390
9	WRITE(NCW,300)NCB		00001400
300	FORMAT('1LAST RECORD WRITTEN TO LOD FILE WAS ',I7)		00001410
	STOP		00001420
	END		00001430

FUNCTION MORN(I)	00011580
MORN=0	00011720
CALL ZBOOL (MEQ(I),NEQ(I),MORN,7)	00011730
RETURN	00011740
END	00011750

M O R N

```
FUNCTION NEQ(I)  
NEQ=0  
CALL ZBIT (I,19,32,NEQ,19)  
RETURN  
END
```

```
00011760  
00011890  
00011900  
00011910  
00011920
```

NEQ

SUBROUTINE NINBW (IW,K,IB,IN)

00011930

00011940

00011950

00012010

00012020

00012030

00012040

00012050

00012060

00012070

00012080

00012090

00012100

00012110

00012120

00012130

00012140

00012150

00012160

00012170

00012180

00012190

C ARGUMENTS IW - INTEGER ARRAY IN W FORM

C IB - INTEGER WORD

C IN - INTEGER WORD

C USAGE GENERAL

C REQUIREMENTS NONE

C DIMENSION IW (K)

N=IW(1)

DO 1 L=5,N,2

IF(IW(L)-IB)1,2,1

1 CONTINUE

GO TO 9

2 CONTINUE

IW(L+1)=IN

9 RETURN

END

NUMAB

(CALLED BY SUBROUTINE INWIN)

```

      FUNCTION NUMAB(A,B)
C   AN INDIVIDUAL WITH IDENTITY A AND B IS ASSIGNED A SERIAL INTEGER
C   IDENTIFICATION NUMBER FOR USE WITHIN CORE.
      INTEGER A,B,AR,BR,ZERO,BLN4
      DIMENSION AR (150),BR(150)
      DATA ZERO/3HZER/,BLN4/3H /
      NUMAB = 0
      IF (A-ZERO)10,80,10
80    DO 580 I= 1,150
      AR (I) = 0
580   BR(I) =0
      GO TO 9
10    IF (A-0) 12,9,12
12    IF (B-BLN4) 11,9,11
11    DO 500 I= 1,150
      IF (AR (I) -0) 3,2,3
2     AR (I) = A
      BR (I) = B
      NUMAB = I
      GO TO 9
3     IF (AR (I) -A) 500,4,500
4     IF (BR(I)-B) 500,5,500
5     NUMAB = I
      GO TO 9
500   CONTINUE
9     RETURN
      END

```

NUMAB

(CALLED BY MAIN PROGRAMME

LODSUM)

```

FUNCTION NUMAB(A,B)
  INTEGER A,B,AR,BR
  INTEGER ZERO,      BLN4
  DIMENSION AR (2852) ,BR(2852)
  COMMON AR, BR
  DATA ZERO/3HZER/,      BLN4/3H  /
  NUMAB=0
  IF(A-ZERO)10,80,10
80 DO 580 I=1,2852
  AR(I)=0
580 BR(I)=0
  GO TO 9
10  IF (A-0) 12,9,12
12  IF (B-BLN4) 11,9,11
11  DO 500 I=1,2852
  IF(AR(I)-0)3,2,3
2   AR(I)=A
  BR(I)=B
  NUMAB=I
  GO TO 9
3   IF(AR(I)-A)500,4,500
4   IF(BR(I)-B)500,5,500
5   NUMAB=I
  GO TO 9
500 CONTINUE
9   RETURN
  END

```

```

00031380
00031390
00031400
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00031420
00031430
00031440
00031450
00031460
00031470
00031480
00031490
00031500
00031510
00031520
00031530
00031540
00031550
00031560
00031570
00031580
00031590
00031600
00031610
00031620
00031630
00031640

```


SUBROUTINE ORPW(IW,JW,IJW)

00012560

ORPW

00012570

00012580

ARGUMENTS

IW - INTEGER ARRAY IN W FORM

00012660

JW - INTEGER ARRAY IN W FORM

00012670

IJW - INTEGER ARRAY IN W FORM

00012680

00012690

C*****00012700

DIMENSION IW (12), JW(12), IJW(36)

00012710

NI=IW(1)

00012720

NJ=JW(1)

00012730

K=3

00012740

DO 1 L=5,NI,2

00012750

AI=IW(L+1)

00012760

DO 2 M=5,NJ,2

00012770

K=K+2

00012780

CALL ZBOOL (IW(L),JW(M),IJW(K),7)

00012790

IJW(K+1)=AI*JW(M+1)

00012800

2 CONTINUE

00012810

1 CONTINUE

00012820

IJW(1)=K+1

00012830

CALL RNKBW (IJW,36)

00012840

RETURN

00012850

END

00012860

```

SUBROUTINE PPRDW (HABW,N,LP,LPP,LPM,DW,J)
INTEGER DGW (3204), HPW(84), HMW (84)
INTEGER HABW (N),DW(J)
C  N=84, J= 3204
C  GET ALL POSS. DIPTYPES AT 2 LOCI IN POP'N.
  CALL HHDW (HABW,N,HABW,N,DGW,J)
  IF (LPP)3,2,2
C  GET FATHER'S POSS. DIPL AT 2 LOCI
2  CALL CHKDW (DGW,J,LPP,DW)
C  GET FATHER'S POSS. HAPL. AT 2 LOCI
  CALL DHW (HABW,N,DW,J,HPW)
  GO TO 4
C  IF FATHER UNKNOWN
3  CALL EQW (HABW,N,HPW)
C  DO THE SAME WITH MOTHER
4  IF (LPM) 6,5,5
5  CALL CHKDW (DGW,J,LPM,DW)
  CALL DHW (HABW,N,DW,J,HMW)
  GO TO 7
6  CALL EQW (HABW,N,HMW)
C  FIND ALL POSS. DIPL. FOR CHILDREN OF THESE TWO PARENTS
7  CALL HHDW (HPW,N,HMW,N,DW,J)
C  OUTPUT IS THE INDIVIDUAL'S DIPL. ARRAY AT 2 LOCI
  CALL CHKDW (DW,J,LP,DW)
C  FIND IDENTICAL GENOTYPES.
  ND = DW (1) -1
  DO 11 IT = 5,ND,2
  KO=0
  KU=0
  IDO = DW(IT)
  CALL ZBIT (IDO,5,11,KO,26)
  CALL ZBIT(IDO,19,25,KU,26)
  DGW(IT)= KO+KU
  KO=0
  KU=0
  CALL ZBIT (IDO,12,18,KO,26)
  CALL ZBIT (IDO,26,32,KU,26)
11  DGW (IT+1) = KO+KU
C  GIVE THEM EQUAL PROP.
  NDP = ND-2
  DO 12 IT = 5,NDP,2
  IDO = IT +2
  DO 14 IR = IDO, ND, 2
  IF (DGW (IT) - DGW(IR)) 14,15,14
15  IF (DGW(IT+1) -DGW(IR+1)) 14,16,14
16  IF (DW(IT+1) -DW(IR+1)) 17,14,18
17  DW(IT+1) = DW(IR+1)
  GO TO 14
18  DW(IR+1) = DW(IT+1)
14  CONTINUE
12  CONTINUE
  RETURN
END

```

```

00012870
00012880
00012890
00012900
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00012960
00012970
00012980
00012990
00013000
00013010
00013020
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00013080
00013090
00013100
00013110
00013120
00013130
00013140
00013150
00013160
00013170
00013180
00013190
00013200
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00013250
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00013270
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00013300
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00013370
00013380
00013390

```

```
SUBROUTINE PRUNW (IW,K,MASK)
DIMENSION IW (K)
N=IW(1)
DO 1 I=5,N,2
1 IW(I)=ICOMP(IW(I),MASK)
CALL RNKBW (IW,K)
RETURN
END
```

```
00013400
00013410
00013420
00013430
00013440
00013450
00013460
00013470
```

PRUNW

```

SUBROUTINE RDICT
C
C IF NCA = 8 UPDATE GENE FREQUENCIES AFTER ONE PASS OF LINKAGE
  INTEGER AL
  INTEGER OCTA,ALIT,ALAB
  DIMENSION LAB(4)
  DIMENSION TITLE(25)
  DIMENSION FR(10)
  DIMENSION LAR(15)
  DIMENSION MAR (26,70)
  DIMENSION LOC(80),ICLOC(70),JPST(81)
  INTEGER HWS ( 770) , AP(430), JP(430)
  DIMENSION IWS(24)
  DIMENSION ALAB(4)
  COMMON NREC,NRECA,NRECB,NRECC,NCA,NCB,NCC,NCD,NCE,NCR,NCW
  1,LCA,LCB,LCC,LCD,LCE
  COMMON NL,NIND,MAR,HWS,LOC
  1,JP,AP,JPST
  2,ICLOC
  COMMON IWIN,JWIN,KWIN,NWIN,MARRO,MARCO,IPCW1
C NCC = TYPE OF CODING, 1=GALTON,3=NEW YORK,4=BIRMINGHAM,5=BRAZIL
C NCB - TYPE OF GENERATION/BIRMINGHAM CARD, 5=MONGOLS, SO TRISOMIC
C NCD - IF 1, THEN GENE FREQUENCIES TO BE UPDATED BY CARD INPUT
  DATA IZ/3HZZZ/ ,IUPD/'XX8'/
  REWIND 10
  NREC=1
  LENG=0
  INI=1
  NTTT =0
  IF(NCA.EQ.8)GOTO 81
C NCD NOW INPUT AT BEGINNING OF MAIN FOR WINNIPEG.
C READ(NCR,2000)NCC,NCB,NCD,NCE,NCF
C2000 FORMAT(5I1)
CIF NCD=1, INPUT ALTERNATIVE GENE FREQ. TO HWS
C NCC= ALWAYS 5 FOR RH LAB
  NCC =5
  NLOC=1
  NP=0
  30 READ(10)NT,AL,ITYPE,IL,OCTA,TITLE,(LAB(I),I=1,4)
  IF(NT)30,30,38
C READS LOCUS CARD
  1 IF(LGAL-0)60,61,60
  61 NLOC=NLOC-1
  60 READ(10)NT,AL,ITYPE,IL,OCTA,TITLE,(LAB(I),I=1,4)
  IF(NT)9,9,2
  2 NLOC=NLOC+1
38 LGAL = LAB (NCC-1)
  LOC(NLOC)=AL
C READS PHENOTYPE
  3 JPST(NLOC)=NP+1
  10 READ(10)NT,AL,ITYPE,IL,FREQ,OCTA,ALIT,(LAR(I),I=1,15),
  1(ALAB(I),I=1,4)
  IF(NT)20,20,22
  22 IF(LGAL-0)62,10,62
  62 NP=NP+1
  NTTT=NT

```

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00013480
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00013650
00013660
00013670
00013680
00013690
00013700
00013710
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00013770
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00013980
00013990
00014000
00014010
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00014090
00014100
00014110
00014120
00014130
00014140
00014150

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CALL BINX(NT,LAR,JP(NP))	00014160
GOTO(5,6,7,8,8,5,5,5),LGAL	00014170
5 AP(NP)=OCTA	00014180
GO TO 10	00014190
6 AP(NP)=ALIT	00014200
GOTO 10	00014210
7 AP(NP)=ALAB(NCC-1)	00014220
GOTO 10	00014230
8 AP(NP)=JP(NP)	00014240
GOTO 10	00014250
C READ GREEN CARD	00014260
20 READ(10)NT,AL,ITYPE,IL,OCTA,TITLE,(LAB(I),I=1,4)	00014270
C READS HAPLOTYPE CARDS	00014280
HWS(INI+1)=1000	00014290
HWS(INI+2)=LOC(NLOC)	00014300
HWS(INI+3)=NTTT	00014310
K=4	00014320
842 READ(10)NT,AL,ITYPE,IL,FREQ,OCTA,ALIT,(LAR(I),I=1,15),	00014330
1(ALAB(I),I=1,4)	00014340
IF(NT)100,100,25	00014350
25 IF(LGAL-0)26,842,26	00014360
26 CONTINUE	00014370
LE1=INI+K	00014380
LE2=LE1+1	00014390
CALL BINX(NT,LAR,HWS(LE1))	00014400
IF (FREQ.LE.0.0005) FREQ = 0.0006	00014410
HWS(LE2)=FREQ*1000+.5	00014420
K=K+2	00014430
GO TO 842	00014440
100 IF(LGAL)1,1,11	00014450
11 LENG=K	00014460
HWS(INI)=LENG	00014470
INI=INI+LENG	00014480
GO TO 1	00014490
9 CONTINUE	00014500
JPST(NLOC+1)=NP+1	00014510
CUPDATE GENE FREQUENCIES	00014520
IF (NCD.NE. IUPD) GO TO 84	00014530
81 READ(NCR,281)ILOC,(FR(I),I=1,10)	00014540
281 FORMAT(A3,1X,12F5.3)	00014550
IF(ILOC.EQ.IZ)GOTO 83	00014560
CALL FNDWS (HWS,KWIN,ILOC,IWS,IWIN)	00014570
NI=IWS(1)	00014580
K=0	00014590
DO 82 J=6,NI,2	00014600
K=K+1	00014610
L=FR(K)	00014620
N=(FR(K)-L)*1000+.5	00014630
82 CALL NINBW (IWS,IWIN,L,N)	00014640
CALL UPDWS (HWS,KWIN,ILOC,IWS,IWIN)	00014650
GOTO 81	00014660
83 CONTINUE	00014670
84 CONTINUE	00014680
NCA=1	00014690
NL=NLOC	00014700
RETURN	00014710
END	00014720

CALL BINX(NT,LAR,JP(NP))	00014160
GOTO(5,6,7,8,8,5,5,5),LGAL	00014170
5 AP(NP)=OCTA	00014180
GO TO 10	00014190
6 AP(NP)=ALIT	00014200
GOTO 10	00014210
7 AP(NP)=ALAB(NCC-1)	00014220
GOTO 10	00014230
8 AP(NP)=JP(NP)	00014240
GOTO 10	00014250
C READ GREEN CARD	00014260
20 READ(10)NT,AL,ITYPE,IL,OCTA,TITLE,(LAB(I),I=1,4)	00014270
C READS HAPLOTYPE CARDS	00014280
HWS(INI+1)=1000	00014290
HWS(INI+2)=LOC(NLOC)	00014300
HWS(INI+3)=NTTT	00014310
K=4	00014320
842 READ(10)NT,AL,ITYPE,IL,FREQ,OCTA,ALIT,(LAR(I),I=1,15),	00014330
1(LAB(I),I=1,4)	00014340
IF(NT)100,100,25	00014350
25 IF(LGAL-0)26,842,26	00014360
26 CONTINUE	00014370
LE1=INI+K	00014380
LE2=LE1+1	00014390
CALL BINX(NT,LAR,HWS(LE1))	00014400
IF (FREQ.LE.0.0005) FREQ = 0.0006	00014410
HWS(LE2)=FREQ*1000+.5	00014420
K=K+2	00014430
GO TO 842	00014440
100 IF(LGAL)1,1,11	00014450
11 LENG=K	00014460
HWS(INI)=LENG	00014470
INI=INI+LENG	00014480
GO TO 1	00014490
9 CONTINUE	00014500
JPST(NLOC+1)=NP+1	00014510
CUPDATE GENE FREQUENCIES	00014520
IF (NCD.NE. IUPD) GO TO 84	00014530
81 READ(NCR,281)ILOC,(FR(I),I=1,10)	00014540
281 FORMAT(A3,1X,12F5.3)	00014550
IF(ILOC.EQ.IZ)GOTO 83	00014560
CALL FNDWS (HWS,KWIN,ILOC,IWS,IWIN)	00014570
NI=IWS(1)	00014580
K=0	00014590
DO 82 J=6,NI,2	00014600
K=K+1	00014610
L=FR(K)	00014620
N=(FR(K)-L)*1000+.5	00014630
82 CALL NINBW (IWS,IWIN,L,N)	00014640
CALL UPDWS (HWS,KWIN,ILOC,IWS,IWIN)	00014650
GOTO 81	00014660
83 CONTINUE	00014670
84 CONTINUE	00014680
NCA=1	00014690
NL=NLOC	00014700
RETURN	00014710
END	00014720

THAN CW MUST BE PUNCHED.	00014740
E OF RH WILL BE INTERPRETED AS UNKNOWN.	00014750
THAN ZERO WILL BE INTERPRETED AS MEANING POSITIVE	00014760
	00014770
/ ' 0 ' , ' ' /	00014780
	00014790
	00014800

SUBROUTINE RNKBW (IW,IGUES)		00014920
C		00014930
C		00014940
C	ARGUMENTS IW - INTEGER ARRAY IN W-FORM	00015000
C		00015010
C	USAGE GENERAL	00015020
C		00015030
C	REQUIREMENTS NONE	00015040
C		00015050
C		00015060
C	*****	00015070
	DIMENSION IW (IGUES)	00015080
	N=IW(1)	00015090
	IF(N-6)13,13,5	00015100
5	CONTINUE	00015110
10	CONTINUE	00015120
	NC=0	00015130
	DO 1 J=7,N,2	00015140
	IF(IW(J-2)-IW(J))2,3,1	00015150
2	CONTINUE	00015160
	KKK=IW(J)	00015170
	IW(J)=IW(J-2)	00015180
	IW(J-2)=KKK	00015190
	KKK=IW(J+1)	00015200
	IW(J+1)=IW(J-1)	00015210
	IW(J-1)=KKK	00015220
	NC=NC+1	00015230
	GOTO 1	00015240
3	CONTINUE	00015250
	IF(IW(J))1,4,4	00015260
4	CONTINUE	00015270
	IW(J)=-1	00015280
	IW(J-1)=IW(J-1)+IW(J+1)	00015290
	NC=NC+1	00015300
	IW(1)=IW(1)-2	00015310
1	CONTINUE	00015320
	IF(NC)9,9,10	00015330
9	CONTINUE	00015340
13	CONTINUE	00015350
	DO 11 I=5,N,2	00015360
	IF(IW(I)-0)12,11,11	00015370
11	CONTINUE	00015380
	RETURN	00015390
12	CONTINUE	00015400
	IW(1)=I-1	00015410
	RETURN	00015420
	END	00015430

S E G W

```

SUBROUTINE SEGW(IB,ITH,ICHW)
C
C
C*****SUBROUTINE SEGW(IB,ITH,ICHW)*****
C ABSTRACT      THE BOOLEAN WORD IB WHICH REPRESENTS THE PARENTAL DIPLOID
C                AT 2 LOCI, IS BROKEN DOWN TO PRODUCE A W-ARRAY OF POSITIVE
C                HAPLOTYPES AT THESE 2 LOCI, ICHW, IN W FORMAT
C                ITH IS THE RECOMBINATION FRACTION FOR THIS PARENT
C
C ARGUMENTS      IB - INTEGER WORD
C                ITH - INTEGER WORD REPRESENTING RECOMBINATION FRACTION
C
C USAGE          LINKAGE
C
C REQUIREMENTS   MEQ,ILEQ,NEQ,KJEQ,RNKBW
C
C*****
C DIMENSION ICHW(12)
C ICHW(1)=12
C ICHW(2)=10000
C ICHW(5)=MEQ(IB)
C ICHW(6)= (100-ITH)
C ICHW(7)=ILEQ(IB)
C ICHW(8)=ITH
C ICHW(9)=NEQ(IB)
C ICHW(10)=ICHW(6)
C ICHW(11)=KJEQ(IB)
C ICHW(12)=ICHW(8)
C CALL RNKBW (ICHW,12)
C RETURN
C END

```

SUBROUTINE TRANS (KIND)

TRANS

C		00015790
C		00015800
C		00015810
C	COMMON AS USED IN LINKAGE	00015890
C		00015900
C	USAGE LINKAGE	00015910
C		00015920
C	REQUIREMENTS NONE	00015930
C		00015940
C	*****	00015950
	INTEGER BLANK /' / ,RH6/'RH6'/ ,GM/'GM'/	00015960
	DIMENSION LOC(80),ICLOC(70),JPST(81)	00015970
	INTEGER HWS (770) , AP(430), JP(430)	00015980
	DIMENSION MAR (26,70)	00015990
	DIMENSION MARK (26,70)	00016000
	COMMON NREC,NRECA,NRECB,NRECC,NCA,NCB,NCC,NCD,NCE,NCR,NCW	00016010
	1,LCA,LCB,LCC,LCD,LCE	00016020
	COMMON NL,NIND,MAR,HWS,LOC	00016030
	1,JP,AP,JPST	00016040
	2,ICLOC	00016050
	COMMON IWIN, JWIN,KWIN,NWIN,MARRO,MARCO,IPCW1	00016060
	EQUIVALENCE (MARK,MAR)	00016070
	DO 3 IND= 1,KIND	00016080
	DO 2 J= 1,LCA	00016090
	IF (ICLOC (J)-GM) 603,2,603	00016100
603	IF (ICLOC (J)-RH6) 601, 2,601	00016110
601	IF (MARK (IND,J)-BLANK)600,20,600	00016120
600	IF (MARK(IND,J)+1) 1,2,1	00016130
	1 DO 500 I=1,NL	00016140
	IF(LOC(I)-ICLOC(J))500,509,500	00016150
500	CONTINUE	00016160
	MARK(IND,J)=-2	00016170
	GOTO 2	00016180
509	JB=JPST(I)	00016190
	JE=JPST(I+1) -1	00016200
	DO 510 I=JB,JE	00016210
	IF(AP(I)-MARK(IND,J))510,519,510	00016220
510	CONTINUE	00016230
	MARK(IND,J)=-3	00016240
	GOTO 2	00016250
519	MARK(IND,J)=JP(I)	00016260
	GOTO 2	00016270
	20 MARK(IND,J)=-4	00016280
	2 CONTINUE	00016290
3	CONTINUE	00016300
	RETURN	00016310
	END	00016320

00016340

00016350

00016440

00016450

00016460

00016470

00016480

00016490

00016500

00016530

00016540

00016550

DIMENSION MAR (MARRO,MARCO)

00016560

DIMENSION IWORD (28), IPAR (28)

00016570

MASK=2**NT-1

00016580

NCH=NIND-6

00016590

MSKCH=2**NCH-1

00016600

NTT=NT

00016610

DO 1 I=1,NT

00016620

WORK THROUGH TESTS FROM RIGHT TO LEFT

00016630

IWORD(I)=0

00016640

K= 33-I

00016650

DO 2 J=1,NCH

00016660

L= 33-I

00016670

CALL ZBIT (MAR(J,ILOC),K,K,IWORD(I),L)

00016680

IPAR(I)=0

00016690

C FOLLOWING STMT NEEDED IF FAMILIES WITH MISSING PARENTS ARE ANALYSED.

00016700

IF(MAR(NIND-5,ILOC).LT.0.OR.MAR(NIND-2,ILOC).LT.0)GOTO 1

00016710

CALL ZBIT (MAR(NIND-5,ILOC),K,K, IPAR(I),32)

00016720

FATHER

00016730

CALL ZBIT (MAR(NIND-2,ILOC),K,K, IPAR(I),31)

00016740

MOTHER

00016750

IF(IWORD(I).EQ.MSKCH.AND.IPAR(I).EQ.3)GOTO 3

00016760

ALL POSITIVE BITS

00016770

IF(IWORD(I).EQ.0.AND.IPAR(I).EQ.0)GOTO 3

00016780

ALL NEGATIVE BITS

00016790

GOTO 1

00016800

3 MASK=MASK-2**(I-1)

00016810

NTT=NTT-1

00016820

IF (NTT.LE.7) GO TO 70

00016830

DELETE THIS TEST

00016840

1 CONTINUE

00016850

NTM = NT-1

00016860

DO 4 I= 1,NTM

00016870

L=0

00016880

I33 = 33-I

00016890

CALL ZBIT (MASK,I33,I33,L,32)

00016900

IF(L.EQ.0)GOTO 4

00016910

K=I+1

00016920

DO 5 J=K,NT

00016930

L=0

00016940

I33 = 33-J

00016950

CALL ZBIT (MASK,I33,I33,L,32)

00016960

IF(L.EQ.0)GOTO 5

00016970

CALL ZBOOL (IWORD(I),IWORD(J),IWER,6)

00016980

IF(IWER.EQ.MSKCH)GOTO 6

00016990

CALL ZBOOL (IWORD(I),IWORD(J),IAND,1)	00017000
IF(IAN.EQ.IWORD(I).AND.IAN.EQ.IWORD(J))GOTO 6	00017010
GOTO 5	00017020
6 CONTINUE	00017030
IF(IPAR(I)-IPAR(J))8,80,8	00017040
8 IF(IPAR(I).EQ.3)GOTO 81	00017050
80 MASK=MASK-2**(J-1)	00017060
NTT=NTT-1	00017070
IF(NTT.LE.7)GOTO 70	00017080
GOTO 5	00017090
81 MASK=MASK-2**(I-1)	00017100
NTT=NTT-1	00017110
IF(NTT.LE.7)GOTO 70	00017120
GOTO 4	00017130
5 CONTINUE	00017140
4 CONTINUE	00017150
70 DO 7 I= 1,NIND	00017160
IF(MAR(I,ILOC).LT.0)GOTO 7	00017170
MAR(I,ILOC)=ICOMP(MAR(I,ILOC),MASK)	00017180
7 CONTINUE	00017190
NT=NTT	00017200
IF(NT.LE.7)RETURN	00017210
NTT=7	00017220
MASK= 127	00017230
GOTO 70	00017240
END	00017250

SUBROUTINE UPDWS (HWS,KWIN,LOC,IW,IWIN)

UPDWS

C		00017260
C		00017270
C		00017280
C	ARGUMENTS	HWS - INTEGER ARRAY REPRESENTING A STRING OF W-ARRAYS 00017370
C		LOC - INTEGER WORD REPRESENTING 2 CHARACTER LABEL. 00017380
C		IW - INTEGER ARRAY REPRESENTING A W-ARRAY. 00017390
C		00017400
C	USAGE	GENERAL 00017410
C		00017420
C	REQUIREMENTS	NONE 00017430
C		00017440
C		00017450
C	*****	00017460
	INTEGER HWS (KWIN) , IW(IWIN)	00017470
	NCW=2	00017480
	N=1	00017490
	3 NA=HWS(N)	00017500
	IF(HWS(N))8,8,7	00017510
	7 CONTINUE	00017520
C	LENGTH OF NEXT ARRAY	00017530
	IF(HWS(N+2)-LOC)1,2,1	00017540
	1 N=N+NA	00017550
	GOTO 3	00017560
	8 WRITE(NCW,301)	00017570
301	FORMAT(' ARRAY WITH LABEL LOC CANNOT BE FOUND IN HWS ')	00017580
	GO TO9	00017590
	2 IF(HWS(N)-IW(1))4,5,4	00017600
	4 WRITE(NCW,300)	00017610
300	FORMAT(' ARRAY OF IW IS NOT SAME LENGTH AS THAT IN HWS ')	00017620
	WRITE(NCW,302)HWS(N),IW(1)	00017630
302	FORMAT(2I10)	00017640
	GO TO9	00017650
	5 CONTINUE	00017660
	NI=IW(1)	00017670
	N=N+3	00017680
	DO 6 I=5,NI	00017690
	N=N+1	00017700
6	HWS(N)=IW(I)	00017710
	RETURN	00017720
	END	00017730

```
SUBROUTINE XBIN(N,NX,NP,L)
DIMENSION L(28)
DO 500 I=1,N
500 L(I)=0
MN=NX
IF(NX.LT.0)NX=-NX
NP=0
M= 28-N
IB=2**(N-1)
DO 5 J=1,N
I=J+M
IF(NX.LT.IB)GOTO 5
L(I)=1
NP=NP+1
NX=NX-IB
5 IB=IB/2
NX=MN
RETURN
END
```

```
00017740
00017750
00017760
00017770
00017780
00017790
00017800
00017810
00017820
00017830
00017840
00017850
00017860
00017870
00017880
00017890
00017900
00017910
00017920
```


ZBIT	START	0	00000090
	ENTRY	ZBIT	00000100
	USING	*,15	00000110
	STM	14,12,12(13)	00000120
	LM	2,6,0(1)	00000130
	L	11,0(6)	00000140
	S	11,ONE	00000150
	STH	11,S1+2	00000160
	L	10,0(3)	00000170
	S	10,ONE	00000180
	STH	10,S5+2	00000190
	L	9,0(4)	00000200
	SR	9,10	00000210
	STH	9,S2+2	00000220
	STH	9,S3+2	00000230
	STH	9,S6+2	00000240
	L	8,THIRTY	00000250
	SR	8,9	00000260
	SR	8,11	00000270
	STH	8,S7+2	00000280
	STH	8,S4+2	00000290
	L	9,0(5)	00000300
	SR	8,8	00000310
S1	SLDL	8,0	00000320
S2	SLL	8,0	00000330
S3	SLL	9,0	00000340
S4	SLDL	8,0	00000350
	L	11,0(2)	00000360
	SR	10,10	00000370
S5	SLL	11,0	00000380
S6	SLDL	10,0	00000390
S7	SLL	10,0	00000400
	OR	8,10	00000410
	L	1,12(1)	00000420
	ST	8,0(1)	00000430
	LM	14,12,12(13)	00000440
	BCR	15,14	00000450
THIRTY	DC	F'32'	00000460
ONE	DC	F'1'	00000470
	END		00000480

Z B I T

(IBM 360-370 ASSEMBLER)

(FORTRAN)

```
SUBROUTINE ZBIT (M,I,J,NU,K)
EQUIVALENCE (AJ,JA), (AMK,MK), (AL,L)
MASK=0
DO 1 IM= I,J
IR = 32 - IM
1 MASK= MASK+2**IR
AL = AND(M,MASK)
KI= K-I
IK = I-K
IF (KI) 5,4,2
2 DO 3 N= 1,KI
MASK = MASK /2
3 L= L/2
GO TO 4
5 DO 6 N= 1,IK
MASK = MASK * 2
6 L= L*2
4 AMK = COMPL (MASK)
AJ = AND (NU, MK)
AJ = OR (JA, L)
NU = JA
RETURN
END
```

```

ZBOOL START 0
ENTRY ZBOOL
USING *,15
STM 14,12,12(13)
LM 2,5,0(1)
L 9,0(2)
L 11,0(3)
L 5,0(5)
SLL 5,28
LR 12,5
SR 3,3
SR 4,4
L 2,BIN
BOOL2 LR 5,12
SR 8,8
SR 10,10
SLDL 8,1
SLDL 10,1
SLL 8,1
AR 8,10
STH 8,X+2
X SLL 5,0
SLDL 4,1
BCT 2,BOOL2
L 1,8(1)
ST 4,0(1)
LM 14,12,12(13)
BCR 15,14
BIN DC F'32'
END

```

```

00000510
00000520
00000530
00000540
00000550
00000560
00000570
00000580
00000590
00000600
00000610
00000620
00000630
00000640
00000650
00000660
00000670
00000680
00000690
00000700
00000710
00000720
00000730
00000740
00000750
00000760
00000770
00000780
00000790
00000800

```

Z B O O L

(IBM 360-370 ASSEMBLER)

Z B O O L

(FORTRAN)

```
SUBROUTINE ZBOOL (I,J,K,L)  
EQUIVALENCE (A,M)  
IF (L-6) 1,6,7  
1  A= AND (I,J)  
   GO TO 9  
6  A= EOR (I,J)  
   GO TO 9  
7  A= OR (I,J)  
9  K=M  
   RETURN  
   END
```

APPENDIX II

DICTIONARY FILE

THE USE OF THE DICTIONARY FILE IS EXPLAINED IN SECTION B OF CHAPTER III. THE FILE GIVES THE ALPHANUMERIC CODES AND EQUIVALENT BOOLEAN REPRESENTATIONS OF ALL PHENOTYPES AND HAPLOTYPES INVESTIGATED IN LEIDEN, WITH THE NUMBER OF BITS USED FOR EACH BOOLEAN CODE, AND THE PROPORTION OF EACH HAPLOTYPE IN THE POPULATION. THE LOCI ARE LISTED ALPHABETICALLY UNDER THE CODE NAMES GIVEN IN TABLE 2. THE NUMBER PUNCHED IN COLUMN 79 OF THE LOCUS CARD IS PRINTED AT THE EXTREMITY OF THE FIRST LINE DESCRIBING THE LOCUS.

PHENOTYPES=

0						
3 ABD		-A	-B	DOL	ABO SYSTEM	3
3 ABD	A1B	1	1	1		111
3 ABD	A2B	1	1	0		110
3 ABD	A1	1	0	1		101
3 ABD	A2	1	0	0		100
3 ABD	B	0	1	0		010
3 ABD	O	0	0	0		000

HAPLOTYPES=

0					MAN. CAUC. FREQ. 4-9-73
3 ABD .2090	A1	1	0	1	
3 ABD .0696	A2	1	0	0	
3 ABD .0612	B	0	1	0	
3 ABD .6602	O	0	0	0	

PHENOTYPES=

0						
3 AD3		&1	&2	&3		2
3 AD3	3	0	0	1		
3 AD3	2	0	1	0		
3 AD3	32	0	1	1		
3 AD3	1	1	0	0		
3 AD3	31	1	0	1		
3 AD3	21	1	1	0		

HAPLOTYPES=

0		2 AND 3	UNLIKELY	GALTON FREQ	AD
3 AD3 .001	3	0	0	1	
3 AD3 .050	2	0	1	0	
3 AD3 .949	1	1	0	0	

PHENOTYPES=

0						
3 AK3		&1	&2	&3		2
3 AK3	3	0	0	1		
3 AK3	2	0	1	0		01
3 AK3	32	0	1	1		
3 AK3	1	1	0	0		10
3 AK3	31	1	0	1		
3 AK3	21	1	1	0		11

HAPLOTYPES=

0		RAPLEY ET AL. 67	GIBLETT PG.516	AK
3 AK3 .001	3	0	0	1

3	AK3	.045	2	0	1	0
3	AK3	.954	1	1	0	0

PHENOTYPES=

0				
2	AL		&N	&X
2	AL	X	0	1
2	AL	N	1	0
2	AL	XN	1	1

2

HAPLOTYPES=

0		ALBUMIN		
2	AL	.001	X	0 1
2	AL	.999	N	1 0

PHENOTYPES=

0				
2	ALD		-1	-2
2	ALD	1	1	0
2	ALD	2	0	1
2	ALD	21	1	1

2

HAPLOTYPES=

0				
2	ALD	.999	1	1 0
2	ALD	.001	2	0 1

PHENOTYPES=

0						
4	AM1		&A	&B	&C	&X
4	AM1	A	1	0	0	0
4	AM1	B	0	1	0	0
4	AM1	C	0	0	1	0
4	AM1	X	0	0	0	1
4	AM1	BA	1	1	0	0
4	AM1	CA	1	0	1	0
4	AM1	XA	1	0	0	1
4	AM1	CB	0	1	1	0
4	AM1	XB	0	1	0	1
4	AM1	XC	0	0	1	1

2

HAPLOTYPES=

0		SALIVARY	AMYLASE (AMY1)	
4	AM1	.001	X	0 0 0 1
4	AM1	.001	C	0 0 1 0
4	AM1	.003	B	0 1 0 0
4	AM1	.995	A	1 0 0 0

PHENOTYPES=

0

		6A	6B	6C	6X
4 AM2		1	0	0	0
4 AM2	A	0	1	0	0
4 AM2	B	0	0	1	0
4 AM2	C	0	0	0	1
4 AM2	BA	1	1	0	0
4 AM2	CA	1	0	1	0
4 AM2	XA	1	0	0	1
4 AM2	CB	0	1	1	0
4 AM2	XB	0	1	0	1
4 AM2	XC	0	0	1	1

2

HAPLOTYPES=

0

		PANCREATIC,SERUM,URINE	AMYLASE (AMY2)
4 AM2 .001	X	0	0
4 AM2 .001	C	0	1
4 AM2 .041	B	0	0
4 AM2 .957	A	1	0

PHENOTYPES=

0

		6A	6B	6C	6X
4 AP4		0	0	1	0
4 AP4	C	0	0	0	1
4 AP4	X	0	1	0	0
4 AP4	XC	0	1	1	0
4 AP4	B	1	0	0	0
4 AP4	XB	1	0	0	1
4 AP4	CB	1	1	0	0
4 AP4	A	1	0	1	0
4 AP4	XA	1	1	0	0
4 AP4	CA	1	0	1	0
4 AP4	BA	1	1	0	0

2

001

010

011

100

101

110

HAPLOTYPES=

0

		HOPKINSON ET AL. GIBLETT,436	AP
4 AP4 .001	X	0	0
4 AP4 .040	C	0	1
4 AP4 .360	A	1	0
4 AP4 .599	B	0	0

PHENOTYPES=

0

1 CH1	6
-------	---

1 CH1	-	0
1 CH1	&	1

HAPLOTYPES=

0	PSEUDO-CHOLINESTERASE 1
1 CH1 .019	& 1
1 CH1 .981	- 0

PHENOTYPES=

0			
2 CH2		&U	&A
2 CH2	S	0	0
2 CH2	A	0	1
2 CH2	U	1	0
2 CH2	I	1	1

2

HAPLOTYPES=

0	GIBLETT, PG. 208 KALLAMIS 62
2 CH2 .019	A 0 1
2 CH2 .980	U 1 0
2 CH2 .001	S 0 0

PHENOTYPES=

0				
3 CH3		&U	&A	&F
3 CH3	F	0	0	1
3 CH3	A	0	1	0
3 CH3	AF	0	1	1
3 CH3	U	1	0	0
3 CH3	UF	1	0	1
3 CH3	I	1	1	0

2

6
3
5
1
4
2

HAPLOTYPES=

0	PSEUDO-CHOLINESTERASE
3 CH3 .001	U 1 0 0
3 CH3 .019	A 0 1 0
3 CH3 .980	F 0 0 1

PHENOTYPES=

0					
4 CH4		&U	&A	&F	&S
4 CH4	S	0	0	0	1
4 CH4	F	0	0	1	0
4 CH4	FS	0	0	1	1
4 CH4	A	0	1	0	0
4 CH4	AS	0	1	0	1
4 CH4	AF	0	1	1	0

2

4 CH4	U	1	0	0	0
4 CH4	US	1	0	0	1
4 CH4	UF	1	0	1	0
4 CH4	UA	1	1	0	0
4 CH4	I	1	1	0	0

HAPLOTYPES=

0			PSEUDO-CHOLINESTERASE			
4 CH4 .001	S	0	0	0	1	
4 CH4 .001	F	0	0	1	0	
4 CH4 .001	A	0	1	0	0	
4 CH4 .997	U	1	0	0	0	

PHENOTYPES=

0				
2 COD		&A	&B	
2 COD	2	0	1	
2 COD	1	1	0	
2 COD	21	1	1	

2

HAPLOTYPES=

0			CODOMINANT	
2 COD .01	2	0	1	
2 COD .99	1	1	0	

PHENOTYPES=

0				
2 CO2		-A	-B	
2 CO2	B	0	1	
2 CO2	A	1	0	
2 CO2	AB	1	1	

01
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11

HAPLOTYPES=

0		COLTON	ANTIGEN	MAN.CAUC.FREQ.4-9-73
2 CO2 .9303	A	1	0	
2 CO2 .0698	B	0	1	

PHENOTYPES=

0				
2 CP		-1	-2	
2 CP	1	1	0	
2 CP	2	0	1	
2 CP	21	1	1	

3
A
B
BA

HAPLOTYPES=

0			CERULOPLASMIN	
2 CP .02	A	1	0	
2 CP .98	B	0	1	

PHENOTYPES=

0

4 CR1		1	2	3	4
4 CR1	3	0	0	1	
4 CR1	2	0	1	0	
4 CR1	32	0	1	1	
4 CR1	1	1	0	0	
4 CR1	31	1	0	1	
4 CR1	21	1	1	0	
4 CR1	41	1	0	0	1
4 CR1	42	0	1	0	1
4 CR1	43	0	0	1	1
4 CR1	4	0	0	0	1

2

HAPLOTYPES=

0

4 CR1 .001	3	0	0	1
4 CR1 .001	2	0	1	0
4 CR1 .997	1	1	0	0
4 CR1 .001	4	0	0	0

1

PHENOTYPES=

0

4 CR2		1	2	3	4
4 CR2	3	0	0	1	
4 CR2	2	0	1	0	
4 CR2	32	0	1	1	
4 CR2	1	1	0	0	
4 CR2	31	1	0	1	
4 CR2	21	1	1	0	
4 CR2	41	1	0	0	1
4 CR2	42	0	1	0	1
4 CR2	43	0	0	1	1
4 CR2	4	0	0	0	1

2

HAPLOTYPES=

0

4 CR2 .001	3	0	0	1
4 CR2 .001	2	0	1	0
4 CR2 .997	1	1	0	0
4 CR2 .001	4	0	0	0

1

PHENOTYPES=

0

3 CR3		1	2	3
-------	--	---	---	---

2

PHENOTYPES=

0			
1 C5		E2	3
1 C5			0
1 C5	-		1

HAPLOTYPES=

0		ROBERTS	CHOLINESTERASE 2
1 C5	.010	6	1
1 C5	.090	-	0

PHENOTYPES=

0			
3 DA		61	62
3 DA		0	0
3 DA		0	1
3 DA		0	1
3 DA	32	0	1
3 DA	1	1	0
3 DA	31	1	0
3 DA	21	1	1
3 DA		1	1

HAPLOTYPES=

0			DIAPHORASE
3 DA	.983	1	0
3 DA	.005	0	0
3 DA	.012	0	1
		0	1

PHENOTYPES=

0			
1 D11		-A	
1 D11	A-	0	
1 D11	A6	1	

HAPLOTYPES=

0		DIEGO	MAN. AM. INDIAN FREQ. 4-9-73
1 D11	.0655	1	
1 D11	.9345	0	

PHENOTYPES=

0			
2 D12		-A	-B
2 D12	A	1	0
2 D12	B	0	1

DIEGO SYSTEM

10
01

2 DI2	AB	1	1	1
2 DI2	AB	1	1	11
2 DI2	B	0	1	0

HAPLOTYPES=

0		DIEGO	MAN. AM. INDIAN FREQ. 4-9-73
2 DI2 .0655	A	1 0	
2 DI2 .9345	B	0 1	

PHENOTYPES=

0				
1 DM		&D		3
1 DM	DOM	1		1
1 DM	REC	0		0

HAPLOTYPES=

0		DOMINANT
1 DM .001	DOM	1
1 DM .999	REC	0

PHENOTYPES=

0			
1 DO1		-A	
1 DO1	A-	0	0
1 DO1	A&	1	1

HAPLOTYPES=

0		DOMBROCK	MAN. CAUC. FREQ. 4-9-73
1 DO1 .3907	A&	1	
1 DO1 .6093	A-	0	

PHENOTYPES=

0				
2 DO2		-A -B	DOMBROCK-	
2 DO2	A	1 0		10
2 DO2	B	0 1		01
2 DO2	AB	1 1		11

HAPLOTYPES=

0			MAN. CAUC. FREQ. 4-9-73
2 DO2 .3907	A	1 0	
2 DO2 .6093	B	0 1	

PHENOTYPES=

0

PHENOTYPES=

0				
1 FY1		-A		3
1 FY1	A+	1		1
1 FY1	A-	0		0

HAPLOTYPES=

0 FY1	RACE	SANGER	68	P334
1 FY1	.42	A+	1	
1 FY1	.58	A-	0	

PHENOTYPES=

0				
2 FY2		-A	-B	3
2 FY2	AB	1	1	11
2 FY2	AB	1	1	14
2 FY2	AB	1	1	33
2 FY2	AB	1	1	34
2 FY2	A	1	0	10
2 FY2	A	1	0	20
2 FY2	A	1	0	30
2 FY2	B	0	1	01
2 FY2	B	0	1	02
2 FY2	B	0	1	03
2 FY2	B	0	1	04
2 FY2	FY	0	0	00

HAPLOTYPES=

0				MAN. CAUC. FREQ. 4-9-73
2 FY2	.424	A	1	0
2 FY2	.575	B	0	1
2 FY2	.001	FY	0	0

PHENOTYPES=

0				
3 GC3		&1	&2	&3
3 GC3	3	0	0	1
3 GC3	2	0	1	0
3 GC3	32	0	1	1
3 GC3	1	1	0	0
3 GC3	31	1	0	1

3 GC3

21

1 1 0

11

HAPLOTYPES=

0 HIRSCHFELD 62 FROM CLEAVE, P. MED. GEN. 62

3 GC3 .001	3	0	0	1
3 GC3 .257	2	0	1	0
3 GC3 .742	1	1	0	0

PHENOTYPES=

0

6 GM		1-17	2	3-5	13	21	23	GM	SYSTEM 1-10-73
6 GM	0	0	0	0	0	0	0		

4

HAPLOTYPES=

0

6 GM .1400	1	1	0	0	0	1	0
6 GM .140	2	1	1	0	0	1	0
6 GM .200	3	0	0	1	1	0	0
6 GM .500	4	0	0	1	1	0	1
6 GM .001	5	1	0	1	1	0	0
6 GM .001	6	1	0	0	1	0	0

PHENOTYPES=

0

2 GOT		-1	-2
2 GOT	1	1	0
2 GOT	2	0	1
2 GOT	21	1	1

2

HAPLOTYPES=

0

2 GOT .999	1	1	0
2 GOT .001	2	0	1

PHENOTYPES=

0

3 GPT		&1	&2	&3
3 GPT	1	1	0	0
3 GPT	2	0	1	0
3 GPT	3	0	0	1
3 GPT	21	1	1	0
3 GPT	31	1	0	1
3 GPT	32	0	1	1

2

HAPLOTYPES=

0		GLUTAMIC	PYRUVIC	TRANSAMINASE
3 GPT .5230	1	1	0	0
3 GPT .4720	2	0	1	0
3 GPT .005	3	0	0	1

PHENOTYPES=

0		-1	-2
2 G3P		1	0
2 G3P	1	0	1
2 G3P	2	1	1
2 G3P	21		

2

HAPLOTYPES=

2 G3P .999	1	1	0
2 G3P .001	2	0	1

PHENOTYPES=

0		-1	-2
2 HK		1	0
2 HK	1	0	1
2 HK	2	1	1
2 HK	21		

2

HAPLOTYPES=

2 HK .999	1	1	0
2 HK .001	2	0	1

PHENOTYPES=

0		&A	&S	&C
3 HM3		0	0	1
3 HM3	C	0	1	0
3 HM3	S	0	1	1
3 HM3	SC	1	0	0
3 HM3	A	1	0	1
3 HM3	CA	1	1	0
3 HM3	SA			

2

5

3

4

0

2

1

HAPLOTYPES=

0		HAEMOGLOBIN
3 HM3 .001	C	0 0 1

3	HM3	.001	S	0	1	0
3	HM3	.998	A	1	0	0

PHENOTYPES=

0					
4	HM4		&A	&C	&S &X
4	HM4	X	0	0	0 1
4	HM4	S	0	0	1 0
4	HM4	XS	0	0	1 1
4	HM4	C	0	1	0 0
4	HM4	XC	0	1	0 1
4	HM4	SC	0	1	1 0
4	HM4	A	1	0	0 0
4	HM4	XA	1	0	0 1
4	HM4	SA	1	0	1 0
4	HM4	CA	1	1	0 0

HAPLOTYPES=

0			HAEMOGLOBIN
4	HM4	.001	X 0 0 0 1
4	HM4	.001	S 0 0 1 0
4	HM4	.001	C 0 1 0 0
4	HM4	.997	A 1 0 0 0

PHENOTYPES=

0				
4	HLA		-A	-B -C -D
4	HLA	D	0	0 0 1
4	HLA	C	0	0 1 0
4	HLA	CD	0	0 1 1
4	HLA	B	0	1 0 0
4	HLA	BD	0	1 0 1
4	HLA	BC	0	1 1 0
4	HLA	A	1	0 0 0
4	HLA	AD	1	0 0 1
4	HLA	AC	1	0 1 0
4	HLA	AB	1	1 0 0

HAPLOTYPES=

0			HLA
4	HLA	.250	D 0 0 0 1

4 HLA .250	C	0	0	1	0
4 HLA .250	B	0	1	0	0
4 HLA .250	A	1	0	0	0

PHENOTYPES=

0					
2 HP		61	62		2
2 HP	2	0	1		03
2 HP	1	1	0		
2 HP	21	1	1		11

HAPLOTYPES=

0		BAITSC	62, FROM GIBLETT, PG. 94	HP
2 HP .380	1	1	0	
2 HP .620	2	0	1	

PHENOTYPES=

0				
2 ICD		-1	-2	2
2 ICD	1	1	0	
2 ICD	2	0	1	
2 ICD	21	1	1	

HAPLOTYPES=

0			
2 ICD .999	1	1	0
2 ICD .001	2	0	1

PHENOTYPES=

0				
2 IGA				2
2 IGA	11	1	1	
2 IGA	10	1	0	
2 IGA	01	0	1	

HAPLOTYPES=

0			
2 IGA .939	10	1	0
2 IGA .061	01	0	1

PHENOTYPES=

0				
1 INL		-1		3
1 INL	A6	1		1

1 INL A- 0

0

HAPLOTYPES=

0
1 INL .094 A& 1
1 INL .906 A- 0

PHENOTYPES=

0
1 INA &B
1 INA B& 1
1 INA B- 0

3

1

0

HAPLOTYPES=

0 INV
1 INA .093 B& 1
1 INA .907 B- 0

PHENOTYPES=

0
2 IN2 &A &B
2 IN2 A 0 1
2 IN2 L 1 0
2 IN2 LA 1 1
2 IN2 3/- 0 0

3

01

10

11

00

HAPLOTYPES=

0 INV
2 IN2 .0010 L 1 0
2 IN2 .0930 LA 1 1
2 IN2 .9060 -- 0 0

PHENOTYPES=

0
2 JK2 -A -B
2 JK2 B 0 1
2 JK2 A 1 0
2 JK2 AB 1 1

3

01

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11

HAPLOTYPES=

0
2 JK2 .4885 B 0 1
2 JK2 .5116 A 1 0

MAN. CAUC. FREQ. 4-9-73

PHENOTYPES=

0

PHENOTYPES=

0				
1 KL1		-K		3
1 KL1	K+	1		1
1 KL1	K-	0		0

HAPLOTYPES=

0 KL1			RACE SANGER 1968 P226
1 KL1 .046	K+	1	
1 KL1 .954	K-	0	

PHENOTYPES=

0				
2 KL2		-K	-L	3
2 KL2	2	0	1	01
2 KL2	1	1	0	10
2 KL2	21	1	1	11

HAPLOTYPES=

0				MAN. CAUC. FREQ. 4-9-73
2 KL2 .0413	1	1	0	
2 KL2 .9587	2	0	1	

PHENOTYPES=

0								
4 KL4		K	C	KPA	KPB			3
4 KL4	CA	0	1	1	0			0110
4 KL4	CB	0	1	0	1			0101
4 KL4	CAB	0	1	1	1			0111
4 KL4	K	1	0	0	1			1001
4 KL4	KCB	1	1	0	1			1101
4 KL4	KCA	1	1	1	1			1111
4 KL4	K0	0	0	0	0			0000

HAPLOTYPES=

0					MAN. CAUC. FREQ. 4-9-73
4 KL4 .0093	CA	0	1	1	0
4 KL4 .0413	K	1	0	0	1
4 KL4 .9495	CB	0	1	0	1
4 KL4 .0001	K0	0	0	0	0

PHENOTYPES=

0

		-A	-B
2 KP2		0	0
2 KP2	0	0	0
2 KP2	B	0	1
2 KP2	A	1	0
2 KP2	AB	1	1

HAPLOTYPES=

0			
2 KP2 .020	A	1	0
2 KP2 .979	B	0	1
2 KP2 .001	0	0	0

PHENOTYPES=

0				
3 LDA		61	2	3
3 LDA	3	0	0	1
3 LDA	2	0	1	0
3 LDA	32	0	1	1
3 LDA	1	1	0	0
3 LDA	31	1	0	1
3 LDA	21	1	1	0

2

HAPLOTYPES=

		LACTATE DEHYDROGENASE		
0				
3 LDA .001	3	0	0	1
3 LDA .001	2	0	1	0
3 LDA .998	1	1	0	0

PHENOTYPES=

0				
3 LDB		61	2	3
3 LDB	3	0	0	1
3 LDB	2	0	1	0
3 LDB	32	0	1	1
3 LDB	1	1	0	0
3 LDB	31	1	0	1
3 LDB	21	1	1	0

2

HAPLOTYPES=

0			
3 LDB .001	3	0	0
3 LDB .001	2	0	1

3 LDB .998 1 1 0 0

PHENOTYPES=

0				
1 LE				2
1 LE	10	1		
1 LE	01	1		
1 LE	11	1		
1 LE	00	0		

HAPLOTYPES=

0	LEWIS SYSTEM GIBLETT P.202			
1 LE .816	LE+	1		
1 LE .184	LE-	0		

PHENOTYPES=

0				
1 LES				2
1 LES	01	1		
1 LES	11	1		
1 LES	10	0		

HAPLOTYPES=

0	LEWIS INFORMATIVE ABOUT SECRETOR. RACE P.293			
1 LES .523	SE+	1		
1 LES .477	SE-	0		

PHENOTYPES=

0				
2 LU2		-A	-B	3
2 LU2	O	0	0	00
2 LU2	B	0	1	01
2 LU2	A	1	0	10
2 LU2	AB	1	1	11

HAPLOTYPES=

0	MAN. CAUC. FREQ. 4-9-73			
2 LU2 .9636	B	0	1	
2 LU2 .0354	A	1	0	
2 LU2 .0010	O	0	0	

PHENOTYPES=

0				
3 MDH	81	2	3	2

3 MDH	3	0	0	1
3 MDH	2	0	1	0
3 MDH	32	0	1	1
3 MDH	1	1	0	0
3 MDH	31	1	0	1
3 MDH	21	1	1	0

HAPLOTYPES=

0		MALATE	DEHYDROGENASE	
3 MDH .001	3	0	0	1
3 MDH .009	2	0	1	0
3 MDH .990	1	1	0	0

PHENOTYPES=

0		-M	-N	-S	
3 MNS					3
3 MNS	MS	1	0	1	101
3 MNS	MZ	1	0	0	100
3 MNS	MNS	1	1	1	111
3 MNS	MNZ	1	1	0	110
3 MNS	NS	0	1	1	011
3 MNS	NZ	0	1	0	010

HAPLOTYPES=

0		CLEGHORN	1960	MNS
3 MNS .25	MS	1	0	1
3 MNS .28	MZ	1	0	0
3 MNS .08	NS	0	1	1
3 MNS .39	NZ	0	1	0

PHENOTYPES=

0		-M	-N	-S	-Z	MARY, NANCY, SALLY & SUZIE	
4 MN4							
4 MN4	05	0	1	0	1		0101
4 MN4	06	0	1	1	0		0110
4 MN4	07	0	1	1	1		0111
4 MN4	09	1	0	0	1		1001
4 MN4	10	1	0	1	0		1010
4 MN4	11	1	0	1	1		1011
4 MN4	13	1	1	0	1		1101
4 MN4	14	1	1	1	0		1110

4 MN4 15 1 1 1 1

1111

HAPLOTYPES=

0
 4 MN4 .0607 NS 0 1 1 0
 4 MN4 .2546 MS 1 0 1 0
 4 MN4 .3044 MZ 1 0 0 1
 4 MN4 .3804 NZ 0 1 0 1

MAN. CAUC. FREQ. 4-9-73

PHENOTYPES=

0
 2 NA 2 1
 2 NA 1 0 1
 2 NA 2 1 0
 2 NA 21 1 1

2

HAPLOTYPES=

0 LEIDEN 1974
 2 NA .337 1 0 1
 2 NA .663 2 1 0

PHENOTYPES=

0
 1 NB1 1
 1 NB1 1 1
 1 NB1 0 0

2

HAPLOTYPES=

0 IDEN 1974
 1 NB1 .83 1 1
 1 NB1 .17 0 0

PHENOTYPES=

0
 2 NP -1 -2
 2 NP 1 1 0
 2 NP 2 0 1
 2 NP 21 1 1

2

HAPLOTYPES=

0
 2 NP .999 1 1 0
 2 NP .001 2 0 1

PHENOTYPES=

0

		&1	&2	&3
3 PA3		0	0	1
3 PA3	3	0	0	1
3 PA3	2	0	1	0
3 PA3	32	0	1	1
3 PA3	1	1	0	0
3 PA3	31	1	0	1
3 PA3	21	1	1	0

2

HAPLOTYPES=

0		GALTON	FREQ.	PEPA
3 PA3 .001	3	0	0	1
3 PA3 .001	2	0	1	0
3 PA3 .996	1	1	0	0

PHENOTYPES=

0		&1	&2	&3
3 PB3		0	0	1
3 PB3	3	0	0	1
3 PB3	2	0	1	0
3 PB3	32	0	1	1
3 PB3	1	1	0	0
3 PB3	31	1	0	1
3 PB3	21	1	1	0

2

HAPLOTYPES=

0		GALTON	FREQ.	PEPB
3 PB3 .001	3	0	0	1
3 PB3 .001	2	0	1	0
3 PB3 .998	1	1	0	0

PHENOTYPES=

0		&1	&2	&3
3 PC3		0	0	1
3 PC3	3	0	0	1
3 PC3	2	0	1	0
3 PC3	32	0	1	1
3 PC3	1	1	0	0
3 PC3	31	1	0	1
3 PC3	21	1	1	0

2

HAPLOTYPES=

0		GALTON	FREQ.	PEPC
---	--	--------	-------	------

3	PC3	.001	3	0	0	1
3	PC3	.002	2	0	1	0
3	PC3	.997	1	1	0	0

PHENOTYPES=

0					
3	PD3		&1	&2	&3
3	PD3	3	0	0	1
3	PD3	2	0	1	0
3	PD3	32	0	1	1
3	PD3	1	1	0	0
3	PD3	31	1	0	1
3	PD3	21	1	1	0

2

HAPLOTYPES=

0					
3	PD3	.001	3	0	0
3	PD3	.010	2	0	1
3	PD3	.989	1	1	0

PHENOTYPES=

0			
1	PE1		-1
1	PE1	P-	0
1	PE1	P&	1

3

0
1

HAPLOTYPES=

0		
1	PE1	.5401
1	PE1	.4699

MAN. CAUC. FREQ. 4-9-73

PHENOTYPES=

0			
2	PFK		-1 -2
2	PFK	1	1 0
2	PFK	2	0 1
2	PFK	21	1 1

2

HAPLOTYPES=

0		
2	PFK	.999
2	PFK	.001

PHENOTYPES=

0

2	PGA		-1	-2
2	PGA	1	1	0
2	PGA	2	0	1
2	PGA	21	1	1

2

HAPLOTYPES=

0			
2	PGA .999	1	1 0
2	PGA .001	2	0 1

PHENOTYPES=

0					
4	PGK		81	82	83 84
4	PGK	4	0	0	0 1
4	PGK	3	0	0	1 0
4	PGK	43	0	0	1 1
4	PGK	2	0	1	0 0
4	PGK	42	0	1	0 1
4	PGK	32	0	1	1 0
4	PGK	1	1	0	0 0
4	PGK	41	1	0	0 1
4	PGK	31	1	0	1 0
4	PGK	21	1	1	0 0

2

HAPLOTYPES=

0						
4	PGK .001	4	0	0	0 1	
4	PGK .001	3	0	0	1 0	
4	PGK .001	2	0	1	0 0	
4	PGK .997	1	1	0	0 0	

PHOSPHOGLICERATE KINASE SHI-HEN,AM,J.H.G.23,197

PHENOTYPES=

0				
3	PG1		81	82 83
3	PG1	3	0	0 1
3	PG1	2	0	1 0
3	PG1	32	0	1 1
3	PG1	1	1	0 0
3	PG1	31	1	0 1
3	PG1	21	1	1 0

2

01

10

11

HAPLOTYPES=

0				
		HOPKINSON AND	HARRIS GIBLETT,PG.506	PGM1

3 PG1 .001	3	0	0	1
3 PG1 .235	2	0	1	0
3 PG1 .764	1	1	0	0

PHENOTYPES=

0			
2 PG2		&1	&2
2 PG2	2	0	1
2 PG2	1	1	0
2 PG2	21	1	1

2

HAPLOTYPES=

0		PHOSPHOGLUCOMUTASE2
2 PG2 .007	2	0 1
2 PG2 .993	1	1 0

PHENOTYPES=

0			
2 PG3		&1	&2
2 PG3	2	0	1
2 PG3	1	1	0
2 PG3	21	1	1

2

HAPLOTYPES=

0		PHOSPHOGLUCOMUTASE3
2 PG3 .250	1	1 0
2 PG3 .750	2	0 1

PHENOTYPES=

0				
3 PHI		&1	&2	&3
3 PHI	3	0	0	1
3 PHI	2	0	1	0
3 PHI	32	0	1	1
3 PHI	1	1	0	0
3 PHI	31	1	0	1
3 PHI	21	1	1	0

2

HAPLOTYPES=

0		PHOSPHO	HEXOSE	ISOMERASE
3 PHI .001	3	0	0	1
3 PHI .001	2	0	1	0
3 PHI .998	1	1	0	0

PHENOTYPES=

0

3	PI				
3	PI	F	0	0	1
3	PI	S	0	1	0
3	PI	FS	0	1	1
3	PI	M	1	0	0
3	PI	FM	1	0	1
3	PI	MS	1	1	0

2

HAPLOTYPES=

0

			ALPHA	1	ANTITRYPSIN
3	PI	.008	F	0	0 1
3	PI	.030	S	0	1 0
3	PI	.962	M	1	0 0

PHENOTYPES=

0

2	PK		-1	-2
2	PK	1	1	0
2	PK	2	0	1
2	PK	21	1	1

2

HAPLOTYPES=

0

2	PK	.999	1	1	0
2	PK	.001	2	0	1

PHENOTYPES=

0

2	PPH		-1	-2
2	PPH	1	1	0
2	PPH	2	0	1
2	PPH	21	1	1

2

HAPLOTYPES=

0

2	PPH	.999	1	1	0
2	PPH	.001	2	0	1

PHENOTYPES=

0

4	PSG		A	B	C	D	PEPSINOGEN
---	-----	--	---	---	---	---	------------

2

4 PSG	A	1	0	0	0
4 PSG	B	0	1	0	0
4 PSG	C	0	0	1	0
4 PSG	D	0	0	0	1
4 PSG	AB	1	1	0	0
4 PSG	BA	1	1	0	0
4 PSG	AC	1	0	1	0
4 PSG	CA	1	0	1	0
4 PSG	AD	1	0	0	1
4 PSG	DA	1	0	0	1
4 PSG	BC	0	1	1	0
4 PSG	CB	0	1	1	0
4 PSG	BD	0	1	0	1
4 PSG	DB	0	1	0	1
4 PSG	CD	0	0	1	1
4 PSG	DC	0	0	1	1

HAPLOTYPES=

0					
4 PSG .25	A	1	0	0	0
4 PSG .25	B	0	1	0	0
4 PSG .25	C	0	0	1	0
4 PSG .25	D	0	0	0	1

PHENOTYPES=

0				
3 PUT		-1	-2	-3
3 PUT	1	1	0	0
3 PUT	2	0	1	0
3 PUT	21	1	1	0
3 PUT	31	1	0	1
3 PUT	32	0	1	1
3 PUT	3	0	0	1

2

HAPLOTYPES=

0					
3 PUT .955	1	1	0	0	GAL-1-PUT
3 PUT .040	2	0	1	0	
3 PUT .005	3	0	0	1	

PHENOTYPES=

0

6 RH6		-C	-W	-S	-D	-E	-I
6 RH6	00	0	0	0	0	0	0

4

HAPLOTYPES=

0							MAN. CAUC. FREQ. 4-9-73
6 RH6 .0003	-D-	0	0	0	1	0	0
6 RH6 .0001	RY	1	0	0	0	1	0
6 RH6 .0008	RZ	1	0	0	1	1	0
6 RH6 .0060	R	0	0	1	0	1	0
6 RH6 .0108	R	1	0	0	0	0	1
6 RH6 .0144	R1W	1	1	0	1	0	1
6 RH6 .0218	RO	0	0	1	1	0	1
6 RH6 .1602	R2	0	0	1	1	1	0
6 RH6 .3912	LR	0	0	1	0	0	1
6 RH6 .3946	R1	1	0	0	1	0	1

PHENOTYPES=

0					
2 SC2		-1	-2		SC
2 SC2	2	0	1		01
2 SC2	1	1	0		10
2 SC2	21	1	1		11
2 SC2	1	1	0		0
2 SC2	21	1	1		1

HAPLOTYPES=

0						MAN. CAUC. FREQ. 4-9-73
2 SC2 .9909	1	1	0			
2 SC2 .0091	2	0	1			

PHENOTYPES=

0					
1 SE		&S			3
1 SE	NSEC	0			0
1 SE	SEC	1			1

HAPLOTYPES=

0					
1 SE .523	S&	1			SE
1 SE .477	S-	0			

PHENOTYPES=

0

2 SEX		X	Y
2 SEX	F	1	0
2 SEX	M	1	1

HAPLOTYPES=

0			
2 SEX .50	F	1	0
2 SEX .50	M	0	1

WOMENS LIB FREQ.

PHENOTYPES=

0				
3 TF		-B	-C	-X
3 TF	X	0	0	1
3 TF	C	0	1	0
3 TF	XC	0	1	1
3 TF	B	1	0	0
3 TF	XB	1	0	1
3 TF	CB	1	1	0

2

4
1
3
5
2

HAPLOTYPES=

0		BECKMAN	FROM	GIBLETT, PROG. M. GEN., 1962	TF
3 TF .001	X	0	0	1	
3 TF .006	B	1	0	0	
3 TF .993	C	0	1	0	

PHENOTYPES=

0			
1 YT1		-A	
1 YT1	A&	1	
1 YT1	A-	0	

YT SYSTEM

1
0

HAPLOTYPES=

0			
1 YT1 .9587	A&	1	
1 YT1 .0413	A-	0	

RACE AND SAGNER

PHENOTYPES=

0			
2 YT2		-A	-B
2 YT2	A	1	0
2 YT2	B	0	1
2 YT2	AB	1	1

YT SYSTEM

10
01
11

HAPLOTYPES=

0			
---	--	--	--

RACE AND SAGNER

2	YT2	.9587	A	1	0
2	YT2	.0413	B	0	1

PHENOTYPES=

0					
2	23D		-1	-2	
2	23D	1	1	0	
2	23D	2	0	1	
2	23D	21	1	1	

2

HAPLOTYPES=

0					
2	23D	.999	1	1	0
2	23D	.001	2	0	1

PHENOTYPES=

0					
2	5A		-A	-B	
2	5A	A	1	0	
2	5A	B	0	1	
2	5A	AB	1	1	

2

HAPLOTYPES=

0		EIDEN	1974		
2	5A	.2	A	1	0
2	5A	.8	B	0	1

PHENOTYPES=

0							
4	6P4		GA	GB	GC	GX	
4	6P4	X	0	0	0	1	
4	6P4	C	0	0	1	0	
4	6P4	XC	0	0	1	1	
4	6P4	B	0	1	0	0	
4	6P4	XB	0	1	0	1	
4	6P4	CB	0	1	1	0	
4	6P4	A	1	0	0	0	
4	6P4	XA	1	0	0	1	
4	6P4	CA	1	0	1	0	
4	6P4	BA	1	1	0	0	

2

HAPLOTYPES=

0		6	PHOSPHOGLUCONATE	DEHYDROGENASE
---	--	---	------------------	---------------

4	6P4	.001	X	0	0	0	1
4	6P4	.001	C	0	0	1	0
4	6P4	.169	B	0	1	0	0
4	6P4	.829	A	1	0	0	0

PHENOTYPES=

0		
1	9A	1
1	9A	1
1	9A	0

2

HAPLOTYPES=

0		
1	9A	.35
1	9A	.65

LEIDEN 1974

1	1
0	0

PHENOTYPES=

0

APPENDIX III

DATA ON PROPOSITI WITH TRISOMY-21, THEIR PARENTS AND SIBS.

THE DATA ORIGINATE FROM

- A. WINNIPEG, MANITOBA, CANADA.
- B. PORTLAND, OREGON, U.S.A.
- C. INDIANAPOLIS, INDIANA, U.S.A.
- D. GLASGOW, SCOTLAND, U.K.

MEMBERS OF EACH FAMILY ARE LISTED IN THE FOLLOWING ORDER:
FATHER, MOTHER, TRISOMIC PROPOSITUS, PROPOSITUS' SIBS.

A. WINNIPEG DATA

1. BLOOD GROUPS

THE FOLLOWING INFORMATION IS GIVEN IN COLUMN ORDER:

IDENTITY: FAMILY NUMBER,

AGE IN MONTHS (LEFT) OR IN YEARS (RIGHT),

SEX,

FAMILIAL STATUS (RELATIONSHIP): FATHER, MOTHER OR CHILD (:SIB),

PROPOSITUS,

KARYOTYPE, IF ABNORMAL. 'G3' DENOTES TRISOMY 21,

RACE, WHEN NOT WHITE CAUCASIAN,

BLOOD GROUP PHENOTYPES:

ABO

MNSs (LITTLE S PRINTED AS Z),

RH: C AND c (LITTLE C PRINTED AS S),

D (+ OR -),

E AND e (LITTLE e PRINTED AS I),

D^U INDICATED IF POSITIVE,

X_G^A (+ OR -),

KELL: K, k, Kp^A, Kp^B (LITTLE K PRINTED AS C),

LUTHERAN (:LU): A, B,

P₁.

LEWIS (:LE): A,

DUFFY (:FY): A, B,

KIDD (:JK): A, B,

	IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP001	57	M	FAT				O	MNZZ	CS	D+	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP001	47	F	MOT				A1	MNZZ	SS	D-	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP001	17	F	SIB	PRO	G3		A1	MMZZ	SS	D-	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP001	14	M	SIB				A1	NNZZ	CS	D+	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP001	22	M	SIB				A1	MMZZ	SS	D-	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP002	41	M	FAT				A1	MNZZ	CS	D+	II	A-	C+K-	KP++	LU++	P-	LE+	FY++	JK++
WP002	41	F	MOT				A1	MNSZ	SS	D-	II	A+	C+K-	KP++	LU++	P-	LE-	FY++	JK++
WP002	03	M	SIB	PRO	G3		A1	MNZZ	CS	D+	II	A-	C+K-	KP++	LU++	P-	LE-	FY++	JK++
WP002	07	M	SIB				O	MNSZ	CS	D+	II	A-	C+K-	KP++	LU++	P-	LE-	FY++	JK++
WP003	40	M	FAT				A1	NNSZ	CS	D+	II	A+	C+K-	KP++	LU++	P+	LE+	FY++	JK++
WP003	37	F	MOT				O	MNSZ	SS	D+	EI	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP003	01	M	SIB	PRO	G3		O	NNZZ	CS	D+	EI	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP003	14	M	SIB				A2	MNSS	SS	D-	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP003	12	F	SIB				O	MNSS	SS	D+	EI	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP004	36	M	FAT				O	MNZZ	SS	D-	II	A-	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP004	45	F	MOT				A1	MNZZ	CS	D+	II	A-	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP004	01	F	SIB	PRO	G3		A2	NNZZ	SS	D-	II	A-	C+K-	KP++	LU++	P-	LE+	FY++	JK++
WP005	35	M	FAT				O	MNZZ	SS	D+	EI	A-	C+K-	KP++	LU++	P+	LE+	FY++	JK++
WP005	31	F	MOT				A1	MMSZ	SS	D-	II	A+	C+K-	KP++	LU++	P+	LE+	FY++	JK++
WP005	02	F	SIB	PRO	G3		A1	MMSZ	SS	D-	II	A+	C+K-	KP++	LU++	P-	LE+	FY++	JK++
WP005	02	M	SIB				O	MMZZ	SS	D-	II	A+	C+K-	KP++	LU++	P+	LE+	FY++	JK++
WP005	04	M	SIB				A1	MMZZ	SS	D+	EI	A+	C+K-	KP++	LU++	P-	LE+	FY++	JK++
WP006	47	M	FAT				O	MMZZ	CC	D+	II	A-	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP006	37	F	MOT				A1	MMSZ	SS	D+	EI	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP006	02	F	SIB	PRO	G3		A1	MMZZ	CS	D+	EI	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP006	10	F	SIB				A1	MMSZ	CS	D+	EI	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP007		M	FAT				B	MNSZ	CS	D+	EI	A-	C+K-	KP++	LU++	P+		FY++	JK++
WP007	32	F	MOT				B	MMZZ	SS	D+	EI	A+	C+K-	KP++	LU++	P-		FY++	JK++
WP007		F	SIB	PRO	G3		B	MMSZ	CS	D+	EI	A+	C+K-	KP++	LU++	P+		FY++	JK++
WP008	51	M	FAT				O	MNZZ	CS	D+	II	A-	C+K-	KP++	LU++	P+		FY++	JK++
WP008	54	F	MOT				O	NNZZ	CS	D+	II	A+	C+K-	KP++	LU++	P+		FY++	JK++
WP008	22	F	SIB	PRO	G3		O	NNZZ	CS	D+	II	A+	C+K-	KP++	LU++	P-		FY++	JK++
WP008	19	F	SIB				O	MNZZ	CS	D+	II	A+	C+K-	KP++	LU++	P+		FY++	JK++
WP008	15	M	SIB				O	MNZZ	SS	D-	II	A+	C+K-	KP++	LU++	P+		FY++	JK++
WP009	36	M	FAT				O	MMSS	CS	D+	II	A-	C+K-	KP++	LU++	P-	LE+	FY++	JK++
WP009	35	F	MOT				A2	MNSZ	CS	D+	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP009	01	M	SIB	PRO	G3		O	MMSS	CC	D+	II	A-	C+K-	KP++	LU++	P+	LE+	FY++	JK++
WP009	13	F	SIB				A2	MNSZ	CS	D+	II	A+	C+K-	KP++	LU++	P-		FY++	JK++
WP009	12	F	SIB				A2	MNSZ	CC	D+	II	A-	C+K-	KP++	LU++	P-		FY++	JK++
WP009	10	M	SIB				O	MMSS	SS	D-	II	A+	C+K-	KP++	LU++	P+		FY++	JK++
WP009	08	M	SIB				A2	MNSZ	SS	D-	II	A+	C+K-	KP++	LU++	P-		FY++	JK++
WP009	05	M	SIB				O	MNSZ	CC	D+	II	A-	C+K-	KP++	LU++	P-		FY++	JK++
WP010	52	M	FAT				A2	MNSZ	CC	D+	II	A+	C+K+	KP++	LU++	P-	LE-	FY++	JK++
WP010	43	F	MOT				A1	NNSZ	CC	D+	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP010	04	F	SIB	PRO	G3		A1	NNSZ	CC	D+	II	A+	C+K+	KP++	LU++	P+	LE-	FY++	JK++
WP010	04	F	SIB				A1	NNSZ	CC	D+	II	A+	C+K+	KP++	LU++	P+	LE-	FY++	JK++
WP010	9	F	SIB				A2	MNSZ	CC	D+	II	A+	C+K-	KP++	LU++	P-	LE-	FY++	JK++
WP010	10	M	SIB				A2	NNSZ	CC	D+	II	A-	C+K-	KP++	LU++	P+	LE-	FY++	JK++

	IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP010	12	M	SIB				A1	NNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP010	13	M	SIB				A2	MNSZ	CC	D+	II	A+	C+K+	KP--	LU--	P+	LE-	FY--	JK--
WP010	15	F	SIB				A1	MNSZ	CC	D+	II	A+	C+K+	KP--	LU--	P+	LE-	FY--	JK--
WP010	16	M	SIB				A2	MNSZ	CC	D+	II	A+	C+K+	KP--	LU--	P+	LE-	FY--	JK++
WP010	18	M	SIB				A2	MNSZ	CC	D+	II	A-	C+K+	KP--	LU--	P+	LE-	FY--	JK++
WP011	45	M	FAT				A1	NNZZ	CS	D+	EI	A-	C+K+	KP--	LU--	P-	LE-	FY++	JK++
WP011	35	F	MOT				A1	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP011	06	F	SIB	PRO	G3		A1	NNZZ	SS	D+	EI		C+K-	KP--	LU--	P+	LE+	FY++	JK++
WP011	03	M	SIB				A1	NNZZ	CS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP011	06	F	SIB				A1	MNSZ	CC	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP012	27	M	FAT				O	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK++
WP012	25	F	MOT				A2B	MMSS	CS	D+	EI	A+	C+K+	KP--	LU--	P+		FY++	JK--
WP012	01	M	SIB	PRO	G3		A2	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK++
WP012	02	M	SIB				B	MNSZ	CS	D+	EI	A+	C+K+	KP--	LU--	P+		FY--	JK--
WP013	51	M	FAT				A1	NNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP013	50	F	MOT				A1	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP013	05	M	SIB	PRO	G3		A1	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK--
WP013	09	M	SIB				A1	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP013	06	M	SIB				A1	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP014	59	M	FAT				O	MMSS	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP014	48	F	MOT				O	MNSZ	SS	D-	II	A+	C+K-	KP--	LU++	P+	LE-	FY++	JK++
WP014	17	F	SIB	PRO	G3		O	MMSS	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP014	11	F	SIB				O	MNSZ	CS	D+	II	A+	C+K-	KP--	LU++	P+	LE-	FY++	JK++
WP015	29	M	FAT				A1	MNSZ	SS	D-	II		C+K-	KP--	LU--		LE-	FY--	JK--
WP015	26	F	MOT				A1	MNZZ	CC	D+	II		C+K-	KP--	LU--		LE+	FY++	JK++
WP015	03	M	SIB	PRO	G3		A2	MNZZ	CS	D+	II		C+K-	KP--	LU--		LE+	FY--	JK--
WP016	25	M	FAT				A1	MNSZ	SS	D+	EI	A-	C+K-	KP--	LU--	P-	LE-	FY++	JK--
WP016	19	F	MOT				O	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY +	JK++
WP016	10	M	SIB	PRO	G3		O	MNSZ	CS	D+	EI	A-	C+K-	KP--	LU--	P-	LE+	FY+	JK++
WP017	51	M	FAT				A1	MNZZ	CC	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP017	40	F	MOT				O	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP017	01	M	SIB	PRO	G3		A1	NNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP017	01	M	SIB				A2	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP018	49	M	FAT				A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP018	58	F	MOT				B	MNZZ	SS	D-	II	A-	C+K-	KP--	LU--	P-		FY--	JK--
WP018	13	M		PRO	G3		A1	MNZZ	SS	D-	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP018	19	F	SIB				A1B	MNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP018	18	F	SIB				A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP018	16	M	SIB				A1B	MMZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+		FY--	JK++
WP019	60	M	FAT				A1	NNSS	CC	D+	II	A+	C+K+	KP--	LU--	P+	LE+	FY++	JK--
WP019	44	F	MOT				A1	MNSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP019	02	F	SIB	PRO	G3		A1	NNSS	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE+	FY++	JK--
WP019	20	F	SIB				A1	NNSS	CS	D+	II	A+	C+K+	KP--	LU--	P+		FY++	JK++
WP019	16	M	SIB				O	NNSS	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP019	09	F	SIB				A1	NNSS	CS	D+	EI	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP019	07	F	SIB				A1	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK--

IDENTITY		SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUYG	KELL	KP	LUTH	P	LE	FY	KIDD
WP019	06	F	SIB				A1	MNSZ	CS	D+	II	A+	C+K-	KP-	LU+	P+	LE-	FY++	JK--
WP020	44	M	FAT				O	MNSZ	SS	D+	EI	A+	C+K-	KP-	LU+	P+	LE-	FY+-	JK++
WP020	39	F	MOT				O	MMZZ	SS	D-	II	A+	C+K-	KP-	LU+	P+	LE-	FY+-	JK++
WP020	10	F	SIB	PRO	G3		O	MNSZ	SS	D+	EI	A+	C+K-	KP-	LU+	P+	LE-	FY++	JK+-
WP020	18	M	SIB				O	MNSZ	SS	D-	II	A+	C+K-	KP-	LU+	P+	LE-	FY++	JK++
WP020	14	F	SIB				O	MMSZ	SS	D+	EI	A+	C+K-	KP-	LU+	P+	LE+	FY++	JK+-
WP020	12	M	SIB				O	MNSZ	SS	D-	II	A-	C+K-	KP-	LU+	P+	LE-	FY++	JK++
WP020	08	F	SIB				O	MNSZ	SS	D-	II	A+	C+K-	KP-	LU+	P+	LE-	FY++	JK--
WP021	42	M	FAT				A1	NNZZ	CS	D-	II	A+	C+K+	KP-	LU++	P+	LE-	FY++	JK--
WP021	44	F	MOT				B	MMZZ	CS	D+	II	A+	C+K-	KP-	LU+	P+	LE-	FY++	JK++
WP021	13	F	SIB	PRO	G3		A1	MMZZ	SS	D+	II	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP021	16	M	SIB				A1B	MMZZ	CS	D+	II	A-	C+K-	KP-	LU+	P-	LE-	FY++	JK++
WP021	12	M	SIB				A1B	MMZZ	SS	D+	II	A-	C+K-	KP-	LU+	P+	LE-	FY++	JK++
WP021	10	F	SIB				A1B	MMZZ	CC	D+	II	A+	C+K-	KP-	LU++	P-	LE-	FY++	JK++
WP022	31	M	FAT				A1	MMSZ	SS	D+	EI	A+	C+K-	KP-	LU+	P+	LE-	FY++	JK--
WP022	27	F	MOT				O	MMZZ	SS	D-	II	A+	C+K-	KP-	LU+	P+	LE-	FY++	JK--
WP022	03	F	SIB	PRO	G3		O	MNSZ	SS	D+	EI	A+	C+K-	KP-	LU+	P+	LE+	FY+-	JK++
WP022	02	F	SIB				A1	MMZZ	SS	D-	II	A+	C+K-	KP-	LU+	P+	LE+	FY++	JK++
WP023	40	M	FAT				A1	NNZZ	SS	D+	EI	A+	C+K-	KP-	LU+	P+	LE-	FY++	JK++
WP023	39	F	MOT				O	MMSZ	CC	D+	II	A+	C+K-	KP-	LU+	P+	LE-	FY+-	JK+-
WP023	06	F	SIB	PRO	G3		A2	MNSZ	CS	D+	EI	A+	C+K-	KP-	LU+	P+	LE-	FY+-	JK+-
WP023	07	M	SIB	PRO	G3		O	MNSZ	CS	D+	II	A+	C+K-	KP-	LU+	P-	LE-	FY+-	JK++
WP023	12	M	SIB				O	MMZZ	CS	D+	II	A-	C+K-	KP-	LU+	P+	LE-	FY+-	JK++
WP023	16	F	SIB				A1	MMZZ	CS	D+	II	A+	C+K-	KP-	LU+	P+	LE-	FY+-	JK+-
WP024	32	M	FAT				A1	NNSZ	CS	D+	EI	A-	C+K-	KP-	LU+	P+	LE-	FY++	JK++
WP024	26	F	MOT				A1B	MMZZ	CS	D+	II	A-	C+K+	KP-	LU+	P+	LE-	FY++	JK--
WP024	04	M	SIB	PRO	G3		B	NNZZ	CS	D+	EI	A-	C+K-	KP-	LU+	P+	LE+	FY++	JK--
WP025	40	M	FAT				A2	NNZZ	CS	D+	EI	A+	C+K-	KP-	LU++	P+	LE-	FY+-	JK++
WP025	46	F	MOT				O	MNSZ	SS	D-	II	A-	C+K-	KP-	LU+	P-	LE+	FY+-	JK+-
WP025	10	M	SIB	PRO	G3		O	NNZZ	CS	D+	II	A-	C+K-	KP-	LU+	P+	LE-	FY++	JK++
WP025	12	F	SIB				A2	MNSZ	SS	D+	EI	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK+-
WP025	07	M	SIB				O	NNZZ	CS	D+	II	A-	C+K-	KP-	LU+	P+	LE-	FY++	JK++
WP026	54	M	FAT				A2	MMZZ	CS	D+	EI	A+	C+K-	KP-	LU+	P+	LE-	FY+-	JK--
WP026	54	F	MOT				A2	NNZZ	SS	D-	II	A+	C+K-	KP-	LU+	P+	LE-	FY+-	JK+-
WP026	18	F	SIB	PRO	G3		A2	NNZZ	CS	D+	II	A+	C+K-	KP-	LU+	P+	LE+	FY+-	JK++
WP027	77	M	FAT				A1	NNZZ	SS	D-	II	A-	C+K-	KP-	LU+	P+	LE-	FY+-	JK--
WP027	70	F	MOT				A2	NNZZ	CS	D+	II	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP027	24	F	SIB	PRO	G3		A1	NNZZ	SS	D-	II	A+	C+K-	KP-	LU+	P+	LE-	FY+-	JK++
WP027	40	M	SIB				A2	NNZZ	CS	D+	II	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK--
WP027	38	M	SIB				A1	NNZZ	SS	D-	II	A+	C+K-	KP-	LU++	P+	LE-	FY+-	JK++
WP027	36	M	SIB				O	NNZZ	SS	D-	II	A+	C+K-	KP-	LU+	P+	LE-	FY+-	JK++
WP028	66	M	FAT				A1	MMSZ	SS	D-	EI	A+	C+K-	KP-	LU+	P+	LE-	FY++	JK--
WP028	65	F	MOT				O	NNZZ	SS	D+	EI	A+	C+K-	KP-	LU+	P+	LE-	FY++	JK++
WP028	21	F	SIB	PRO	G3		A1	MNSZ	SS	D+	EI	A+	C+K-	KP-	LU+	P+	LE-	FY++	JK+-
WP028	43	M	SIB				A1	MNSZ	SS	D-	EI	A+	C+K-	KP-	LU+	P+	LE-	FY++	JK+-
WP028	31	F	SIB				A2	MNSZ	SS	D-	EI	A+	C+K-	KP-	LU+	P+	LE-	FY++	JK++

	IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP029	30	M	FAT				A1	MNSZ	SS	D-	II	A-	C+K-	KP-+	LU-+	P-	LE-	FY++	JK-+
WP029	36	F	MOT				O	MNZZ	CC	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY+-	JK-+
WP029	03	M	SIB	PRO	G3		O	MMSZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P-	LE-	FY+-	JK-+
WP029	08	F	SIB				A1	MNSZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE+	FY++	JK-+
WP030	51	M	FAT				O	MMSS	CS	D+	II	A-	C+K-	KP-+	LU++	P+	LE-	FY-+	JK-+
WP030	51	F	MOT				O	MNSZ	CWS	D+	II	A-	C+K-	KP-+	LU-+	P+	LE+	FY++	JK-+
WP030	09	M	SIB	PRO	G3		O	MNSZ	SS	D+	II	A-	C+K-	KP-+	LU++	P+	LE-	FY-+	JK++
WP031	41	M	FAT				A2	MMSS	CS	D+	II	A-	C+K-	KP-+	LU-+	P-	LE-	FY+-	JK-+
WP031	37	F	MOT				A1	MMSZ	SS	D-	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY-+	JK-+
WP031	06	F	SIB	PRO	G3		A2	MMSS	SS	D-	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK++
WP031	10	M	SIB				A1	MMSZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE+	FY++	JK++
WP031	05	M	SIB				O	MMSZ	SS	D-	II	A+	C+K-	KP-+	LU-+	P+	LE+	FY++	JK++
WP031	02	M	SIB				A1	MMSZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P-	LE-	FY++	JK++
WP032	46	M	FAT				A1	MMSZ	CS	D+	II		C+K-	KP-+	LU-+	P-	LE-	FY++	JK-+
WP032	34	F	MOT				A1	MNSZ	SS	D-	II		C+K-	KP-+	LU-+	P+	LE-	FY+-	JK-+
WP032		F	SIB	PRO	G3		A1	MNSZ	CS	D+	II		C+K-	KP-+	LU-+	P+	LE-	FY+-	JK++
WP032	01		SIB				A1	MNSZ	SS	D-	II	A+	C+K-	KP-+	LU-+	P-	LE-	FY++	JK++
WP033	43	M	FAT				O	NNZZ	SS	D-	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY-+	JK-+
WP033	41	F	MOT				O	MNZZ	SS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY+-	JK++
WP033	09	F	SIB	PRO	G3		O	NNZZ	SS	D-	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK-+
WP033	17	M	SIB				O	NNZZ	SS	D-	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK-+
WP033	15	M	SIB				O	MNZZ	SS	D-	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK++
WP033	15	F	SIB				O	MNZZ	SS	D-	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK++
WP033	12	F	SIB				O	NNZZ	SS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK-+
WP034	55	M	FAT				O	MMZZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY+-	JK++
WP034	50	F	MOT				A2	MMSZ	CC	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK-+
WP034	11	F	SIB	PRO	G3		O	MMZZ	CC	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK++
WP034	18	M	SIB				O	MMZZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY+-	JK++
WP035	45	M	FAT				B	MNSZ	CWC	D+	II	A+	C+K+	KP-+	LU-+	P-		FY++	JK++
WP035	56	F	MOT				A1	MNSZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P-	LE-	FY-+	JK++
WP035	10	M	SIB	PRO	G3		A1B	NNZZ	CC	D+	II	A-	C+K-	KP-+	LU-+	P-		FY-+	JK++
WP035	16	M	SIB				A1	MMSS	CWC	D+	II	A+	C+K-	KP-+	LU-+	P-	LE+	FY++	JK-+
WP036	57	M	FAT				A1	NNZZ	CS	D+	II		C+K-	KP-+	LU-	P-		FY-+	JK-+
WP036	57	F	MOT				A2B	MNZZ	CS	D+	II		C+K-	KP-+	LU-+	P+		FY+-	JK++
WP036	21	M	SIB	PRO	G3		B	MNZZ	CS	D+	II		C+K-	KP-+	LU-	P-		FY++	JK-+
WP036	25	M	SIB				A1	MNZZ	CS	D+	II		C+K-	KP-+	LU-	P+		FY++	JK-+
WP036	32	M	SIB				A1B	NNZZ	CS	D+	II		C+K-	KP-+	LU-	P+		FY++	JK-+
WP037	66	M	FAT				A1	MMSZ	CC	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY-+	JK++
WP037	64	F	MOT				B	MNSZ	CS	D+	II	A+	C+K+	KP-+	LU-+	P+		FY+-	JK-+
WP037	35	F	SIB	PRO	G3		B	MNSZ	CS	D+	II		C+K-	KP-+	LU-+	P-		FY++	JK++
WP037	42	F	SIB				A1B	MNSZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+		FY++	JK-+
WP037	45	F	SIB				A1B	MNSZ	CC	D+	II	A+	C+K+	KP-+	LU-+	P+		FY++	JK++
WP038	56	M	FAT				A2	NNZZ	CC	D+	II	A-	C+K-	KP-+	LU-+	P+	LE+	FY++	JK++
WP038	55	F	MOT				O	MMZZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY-+	JK-+
WP038	08	F	SIB	PRO	G3		A2	MNZZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P-	LE-	FY++	JK-+

	IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP038	28	M	SIB				A2	MNZZ	CS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK+-
WP038	33	F	SIB				A2	MNZZ	CS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK+-
WP038	18	M	SIB				A2	MNZZ	CS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK+-
WP039	30	M	FAT				A1	MMSZ	CC	D+	II	A+	C+K+	KP--	LU--	P+	LE-	FY--	JK+-
WP039	28	F	MOT				O	MMSS	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK+-
WP039	09	M	SIB	PRO	G3		A1	MMSS	CS	D+	II	A+	C+K+	KP--	LU--	P+	LE-	FY--	JK+-
WP040	30	M	FAT				O	MNSZ	SS	D-	II	A-	C+K-	KP--	LU--	P-	LE+	FY++	JK++
WP040	23	F	MOT				A1	MMZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK--
WP040	01	M	SIB	PRO	G3		O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP041	47	M	FAT				B	NNZZ	SS	D-	II	A-	C+K-	KP--	LU--	P+		FY++	JK++
WP041	39	F	MOT				B	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P-		FY--	JK--
WP041	09	F	SIB	PRO	G3		B	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-		FY++	JK--
WP041	22	F	SIB				B	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P-		FY++	JK++
WP041	20	F	SIB				O	MNZZ	SS	D-	II	A-	C+K-	KP--	LU--	P-	LE-	FY--	JK--
WP041	17	F	SIB				B	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+		FY++	JK--
WP041	13	F	SIB				B	MNSZ	CS	D+	II	A-	C+K-	KP--	LU--	P-		FY++	JK--
WP041	05	F	SIB				B	MNSZ	SS	D-	II	A-	C+K-	KP--	LU--	P-		FY++	JK++
WP042	22	M	FAT				O	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+		FY--	JK+-
WP042	21	F	MOT				A1	MMSS	SS	D-	II	A-	C+K-	KP--	LU--	P+		FY--	JK+-
WP042	01	M	SIB	PRO	G3		A1	MNSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+		FY--	JK+-
WP043	53	M	FAT				O	MNZZ	CS	D+	II		C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP043	48	F	MOT				A1	MNZZ	CC	D+	II		C+K-	KP--	LU--	P-	LE-	FY++	JK--
WP043	10	M	SIB	PRO	G3		O	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY+-	JK++
WP043	15	M	SIB				A1	MMZZ	CS	D+	II		C+K-	KP--	LU--	P-	LE-	FY+-	JK--
WP044		M	FAT				A1	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP044		F	MOT				A1	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP044		M	SIB	PRO	G3		A1	NNSZ	CS	D+	II	A-	C+K-	KP--	LU--	P-	LE-	FY--	JK--
WP044	15	M	SIB				O	NNSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP044	05	M	SIB				A1	NNSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP044	08	M	SIB				A1	MNSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP044	11	M	SIB				A1	MNSZ	CS	D+	II	A-	C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP044	06	M	SIB				A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP044	06	M	SIB				A1	NNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP044	13	M	SIB				O	MMZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP044	02	M	SIB				A1	NNSZ	CS	D+	II	A-	C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP045	24	M	FAT				B	NNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+		FY++	JK--
WP045	18	F	MOT				O	MMZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP045	07	F	SIB	PRO	G3		O	MNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK--
WP046	61	M	FAT				O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK--
WP046	55	F	MOT				O	MNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK+-
WP046	14	F	SIB	PRO	G3		O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK++
WP046	17	F	SIB				O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP046	14	M	SIB				O	MMZZ	SS	D-	II	A-	C+K-	KP--	LU--	P+	LE+	FY+-	JK++
WP047	62	M	FAT				O	MMZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP047	50	F	MOT				A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP047	05	F	SIB	PRO	G3		O	MMZZ	CS	D+	II	A+	C+K-	KP--	LU-	P+	LE-	FY+-	JK++

	IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP047	16	M	SIB				A1	MMZZ	SS	D-	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY+-	JK+-
WP047	13	M	SIB				A1	MNZZ	SS	D-	II	A-	C+K-	KP-+	LU-+	P+	LE-	FY++	JK-+
WP048	39	M	FAT				O	MNZZ	CS	D+	EI	A-	C+K-	KP-+	LU-+	P-	LE-	FY++	JK++
WP048	36	F	MOT				O	MNZZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK-+
WP048	16	M	SIB	PRO	G3		O	NNZZ	CS	D+	EI	A+	C+K-	KP-+	LU-+	P+	LE+	FY++	JK-+
WP048	18	M	SIB				O	NNZZ	CS	D+	EI	A-	C+K-	KP-+	LU-+	P-	LE-	FY+-	JK-+
WP048	14	M	SIB				O	NNZZ	CS	D+	EI	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK-+
WP048	08	M	SIB				O	NNZZ	CS	D+	EI	A-	C+K-	KP-+	LU-+	P-	LE-	FY++	JK-+
WP048	03	M	SIB				O	NNZZ	SS	D+	EI	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK++
WP049	48	M	FAT				A1	MMZZ	CS	D+	II	A-	C+K-	KP-+	LU-+	P+	LE+	FY++	JK-+
WP049	48	F	MOT				B	MMZZ	CS	D+	EI	A+	C+K-	KP-+	LU-+	P+		FY+-	JK++
WP049	14	M	SIB	PRO	G3		O	MMZZ	CS	D+	EI	A+	C+K-	KP-+	LU-+	P+	LE-	FY+-	JK++
WP049	24	M	SIB				A1B	MMZZ	CS	D+	EI	A+	C+K-	KP-+	LU-+	P-		FY+-	JK-+
WP049	20	F	SIB				B	MMZZ	CS	D+	EI	A+	C+K-	KP-+	LU-+	P+		FY+-	JK-+
WP050	30	M	FAT				A1	MNZZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY+-	JK++
WP050	30	F	MOT				A2B	MMSZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+		FY+-	JK++
WP050	05	M	SIB	PRO	G3		A2	MMZZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE+	FY+-	JK-+
WP050	02	F	SIB				A2	MMZZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P-	LE+	FY+-	JK+-
WP051	51	M	FAT				O	MNZZ	CS	D+	II	A-	C+K-	KP-+	LU-+	P+	LE-	FY+-	JK++
WP051	48	F	MOT				A1	MMSZ	CC	D+	II		C+K-	KP-	LU-+	P+	LE-	FY++	JK++
WP051	04	F	SIB	PRO	G3		A1	MMZZ	CC	D+	II	A-	C+K-	KP-+	LU-+	P+	LE-	FY++	JK++
WP051	29	M	SIB				O	MNZZ	CS	D+	II	A-	C+K-	KP-+	LU-+	P+	LE-	FY++	JK-+
WP051	27	M	SIB				O	MNZZ	CC	D+	II	A-	C+K-	KP-+	LU-+	P+	LE-	FY++	JK-+
WP051	20	M	SIB				O	MNSZ	CC	D+	II	A-	C+K-	KP-+	LU-+	P+	LE-	FY+-	JK+-
WP051	18	F	SIB				O	MNZZ	CS	D+	II	A-	C+K-	KP-+	LU-+	P+	LE-	FY+-	JK-+
WP051	14	F	SIB				A1	MMSZ	CC	D+	II	A-	C+K-	KP-+	LU-+	P+	LE-	FY+-	JK+-
WP051	10	M	SIB				O	MNSZ	CC	D+	II	A-	C+K-	KP-+	LU-+	P+	LE-	FY+-	JK++
WP051	08	M	SIB				O	MNZZ	CS	D+	II	A-	C+K-	KP-+	LU-+	P+	LE-	FY+-	JK-+
WP052	46	M	FAT				O	MNSZ	CS	D+	EI	A+	C+K+	KP-+	LU-+	P+	LE+	FY+-	JK+-
WP052	40	F	MOT				A2	MMSZ	CC	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY+-	JK++
WP052	05	F	SIB	PRO	G3		A2	MNZZ	CS	D+	EI	A+	C+K-	KP-+	LU-+	P-	LE-	FY+-	JK++
WP052	12	M	SIB				A2	MMSS	CS	D+	EI	A+	C+K+	KP-+	LU-+	P+	LE-	FY+-	JK++
WP052	08	F	SIB				A2	MMSS	CS	D+	EI	A+	C+K+	KP-+	LU-+	P+	LE-	FY+-	JK++
WP053	55	M	FAT				A1	MNZZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P-		FY+-	JK++
WP053	49	F	MOT				A1	MNSZ	SS	D+	EE	A+	C+K-	KP-+	LU-+	P-	LE+	FY++	JK++
WP053	04	F	SIB	PRO	G3		A1	MMSZ	CS	D+	EI	A+	C+K-	KP-+	LU-+	P-	LE-	FY+-	JK++
WP053	31	M	SIB				A1	MNZZ	SS	D+	EI	A+	C+K-	KP-+	LU-+	P-	LE-	FY+-	JK++
WP053	29	M	SIB				A1	MMSZ	SS	D+	EI	A+	C+K-	KP-+	LU-+	P-	LE-	FY++	JK-+
WP053	17	F	SIB				A1	MNSZ	CS	D+	EI	A+	C+K-	KP-+	LU-+	P-		FY+-	JK++
WP054	46	M	FAT				O	NNZZ	SS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK-+
WP054	47	F	MOT				A1	MNZZ	CS	D+	II	A-	C+K-	KP-+	LU-+	P+	LE-	FY++	JK++
WP054	08	F	SIB	PRO	G3		O	MNZZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY+-	JK-+
WP054	25	M	SIB				A1	MNZZ	SS	D-	II	A-	C+K-	KP-+	LU-+	P+	LE-	FY+-	JK-+
WP054	15	F	SIB				A1	NNZZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK-+
WP054	12	F	SIB				O	NNZZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY+-	JK++
WP054	19	F	SIB				O	NNZZ	SS	D-	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK++
WP054	22	M	SIB				O	MNZZ	CS	D+	II	A-	C+K-	KP-+	LU-+	P+	LE-	FY+-	JK-+

	IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP055	44	M	FAT				O	MNSZ	CS	D+	II	A+	C+K-	KP-+	LU++		LE-	FY++	JK+-
WP055	38	F	MOT				O	MNZZ	CC	D+	II	A+	C+K-	KP-+	LU--		LE-	FY++	JK++
WP055	01	M	SIB	PRO	G3		O	MMSZ	CC	D+	II	A+	C+K-	KP-+	LU--		LE-	FY--	JK+-
WP055	09	M	SIB				O	MMSZ	CC	D+	II	A-	C+K-	KP-+	LU--		LE-	FY++	JK+-
WP055	08	M	SIB				O	NNZZ	CC	D+	II	A-	C+K-	KP-+	LU--		LE-	FY--	JK++
WP055	07	M	SIB				O	MNZZ	CS	D+	II	A-	C+K-	KP-+	LU--		LE-	FY--	JK+-
WP055	07	F	SIB				O	MMSZ	CS	D+	II	A+	C+K-	KP-+	LU++		LE-	FY++	JK++
WP056	56	M	FAT				O	NNSZ	CS	D+	II	A-	C+K+	KP-+	LU--	P+	LE-	FY--	JK++
WP056	56	F	MOT				O	MMSZ	CC	D+	II	A+	C+K-	KP-+	LU--	P-	LE-	FY++	JK--
WP056	12	F	SIB	PRO	G3		O	MNSS	CC	D+	II	A+	C+K+	KP-+	LU--	P-	LE-	FY--	JK++
WP056	19	F	SIB				O	MNZZ	CS	D+	II	A+	C+K+	KP-+	LU--	P+	LE-	FY--	JK--
WP056	16	M	SIB				O	MNZZ	CC	D+	II	A-	C+K-	KP-+	LU--	P-	LE-	FY++	JK++
WP057	42	M	FAT			ISR	O	NNZZ	CC	D+	II	A+	C+K-	KP-+	LU--	P+	LE-	FY++	JK++
WP057	43	F	MOT			ISR	O	NNZZ	CS	D+	EI	A+	C+K-	KP-+	LU++	P+	LE-	FY--	JK+-
WP057	02	F	SIB	PRO	G3		O	NNZZ	CC	D+	II	A+	C+K-	KP-+	LU++	P+	LE-	FY++	JK+-
WP057	17	F	SIB			ISR	O	NNZZ	CS	D+	EI	A+	C+K-	KP-+	LU--	P-	LE-	FY++	JK+-
WP057	10	F	SIB			ISR	O	NNZZ	CC	D+	II	A+	C+K-	KP-+	LU--	P+	LE-	FY--	JK++
WP057	11	M	SIB			ISR	O	NNZZ	CC	D+	II	A+	C+K-	KP-+	LU++	P+	LE-	FY--	JK++
WP057	14	F	SIB			ISR	O	NNZZ	CS	D+	EI	A+	C+K-	KP-+	LU--	P+	LE-	FY--	JK+-
WP057	06	M	SIB			ISR	O	NNZZ	CS	D+	EI	A+	C+K-	KP-+	LU++	P+	LE-	FY--	JK+-
WP057	03	M	SIB			ISR	O	NNZZ	CC	D+	II	A+	C+K-	KP-+	LU++	P-	LE-	FY--	JK++
WP058	31	M	FAT				O	MMZZ	SS	D+	EI	A+	C+K-	KP-+	LU--	P-	LE-	FY--	JK++
WP058	30	F	MOT				A1	MNSZ	SS	D-	II	A+	C+K-	KP-+	LU--	P+	LE-	FY--	JK--
WP058	01	M	SIB	PRO	G3		A1	MMSZ	SS	D-	II	A+	C+K-	KP-+	LU--	P+	LE-	FY++	JK--
WP058	05	M	SIB				O	MNZZ	SS	D-	II	A+	C+K-	KP-+	LU--	P-	LE-	FY++	JK--
WP058	03	F	SIB				O	MMSZ	SS	D-	II	A+	C+K-	KP-+	LU--	P+	LE-	FY++	JK++
WP058	01	M	SIB				O	MNZZ	SS	D-	II	A+	C+K-	KP-+	LU--	P+	LE-	FY++	JK++
WP059	41	M	FAT				O	MMSS	SS	D+	EI	A-	C+K-	KP-+	LU--	P+	LE-	FY--	JK--
WP059	49	F	MOT				A1B	MMZZ	CS	D+	II	A+	C+K-	KP-+	LU--	P+		FY--	JK--
WP059	11	M	SIB	PRO	G3		B	MMSZ	SS	D+	II	A-	C+K-	KP-+	LU--	P+		FY++	JK--
WP059	14	F	SIB				B	MMSZ	CS	D+	II	A-	C+K-	KP-+	LU--	P+		FY++	JK--
WP060	33	M	FAT				O	MNZZ	CS	D+	II		C+K-	KP-+	LU--	P+	LE-	FY--	JK+-
WP060	31	F	MOT				O	MNSZ	CS	D+	II		C+K-	KP++	LU--	P-	LE-	FY++	JK++
WP060	03	F	SIB	PRO	G3		O	MNSZ	SS	D-	II		C+K-	KP-+	LU--	P+	LE-	FY++	JK++
WP060	07	M	SIB				O	MNSZ	CS	D+	II		C+K-	KP-+	LU--	P-	LE-	FY++	JK+-
WP060	05	M	SIB				O	NNZZ	CS	D+	II		C+K-	KP++	LU--	P-	LE+	FY++	JK+-
WP060	09	M	SIB				O	NNZZ	CS	D+	II		C+K-	KP++	LU--	P-	LE-	FY--	JK++
WP061	47	M	FAT				A1	MNSZ	SS	D+	EE	A+	C+K-	KP-+	LU--	P-	LE-	FY--	JK++
WP061	52	F	MOT				A1	MMZZ	CC	D+	II	A-	C+K-	KP-+	LU--	P+	LE-	FY--	JK++
WP061	17	M	SIB	PRO	G3		A1	MMSZ	CS	D+	EI	A-	C+K-	KP-+	LU--	P-	LE-	FY--	JK++
WP061	18	F	SIB				A1	MNZZ	CS	D+	EI	A+	C+K-	KP-+	LU--	P-	LE-	FY--	JK++
WP061	15	F	SIB				A1	MMSZ	CS	D+	EI	A+	C+K-	KP-+	LU--	P+	LE-	FY--	JK++
WP061	10	M	SIB				A1	MNZZ	CS	D+	EI	A-	C+K-	KP-+	LU--	P+	LE-	FY--	JK++
WP061	14	F	SIB				A2	MMSZ	CS	D+	EI	A+	C+K-	KP-+	LU--	P+	LE-	FY--	JK--
WP062	45	M	FAT				A1	MNZZ	CS	D+	II	A+	C+K-	KP-+	LU++	P+	LE-	FY--	JK+-
WP062	47	F	MOT				A1	MMZZ	SS	D-	II	A+	C+K-	KP-+	LU--	P+	LE-	FY++	JK--
WP062	04	F	SIB	PRO	G3		A1	MMZZ	CS	D+	II	A+	C+K-	KP-+	LU++	P+	LE-	FY++	JK++
WP062	19	F	SIB				A1	MMZZ	SS	D-	II	A+	C+K-	KP-+	LU--	P+	LE-	FY++	JK++

	IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP062	16	M	SIB				O	MMZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP062	12	F	SIB				A1	MNZZ	SS	D-	II	A+	C+K-	KP--	LU++	P+	LE-	FY++	JK++
WP062	07	M	SIB				A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP063	51	M	FAT				B	MNSZ	SS	D-	II	A+	C+K-	KP--	LU++	P+		FY++	JK--
WP063	48	F	MOT				A2B	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P-		FY+-	JK+-
WP063	17	M	SIB	PRO	G3		B	MNSZ	CS	D+	II	A-	C+K-	KP--	LU++	P+		FY+-	JK++
WP063	26	F	SIB				A2B	MMSS	CS	D+	II	A+	C+K-	KP--	LU++	P+		FY+-	JK++
WP063	22	F	SIB				B	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY+-	JK++
WP063	13	M	SIB				A2	MMSS	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE+	FY+-	JK++
WP065	47	M	FAT				B	MNSZ	SS	D-	II	A+	C+K+	KP--	LU--	P+		FY +	JK--
WP065	47	F	MOT				O	NNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK+-
WP065	03	M	SIB	PRO	G3		B	NNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP065	24	F	SIB				O	MNSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP065	23	M	SIB				B	MNSZ	SS	D-	II	A+	C+K+	KP--	LU--	P+		FY++	JK++
WP065	21	M	SIB				B	NNZZ	SS	D-	II	A+	C+K+	KP--	LU--	P+		FY +	JK++
WP065	17	F	SIB				B	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP065	12	F	SIB				O	NNZZ	SS	D+	EI	A+	C+K+	KP--	LU--	P+	LE-	FY++	JK++
WP065	09	M	SIB				O	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP066	53	M	FAT				B	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP066	47	F	MOT				A1	MNZZ	SS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP066	05	M	SIB	PRO	G3		O	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP066	28	F	SIB				A1B	MMSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+		FY+-	JK++
WP066	26	M	SIB				A1B	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK--
WP066	24	M	SIB				B	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+		FY--	JK--
WP066	21	F	SIB				B	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP066	18	M	SIB				O	MMSZ	SS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP066	17	M	SIB				A1B	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP066	14	F	SIB					MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP066	10	M	SIB				O	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK+-
WP066	09	F	SIB				A1B	NNZZ	SS	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP066	07	F	SIB				A1B	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP067	27	M	FAT				A1	MNZZ	CS	D+	II	A+	C+K-	KP-	LU--	P+	LE-	FY--	JK++
WP067	23	F	MOT				O	MMSZ	CS	D+	II	A-	C+K-	KP--	LU++	P+	LE-	FY++	JK++
WP067	01	F	SIB	PRO	G3		A1	MMSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK--
WP067	01	F	SIB				A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU++	P+	LE-	FY--	JK--
WP067		F	SIB				O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP068	29	M	FAT				A1	MMSS	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP068	25	F	MOT				A1	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP068	04	M	SIB	PRO			A1	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP068	06	M	SIB				A1	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP069	37	M	FAT				A1	NNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK+-
WP069	36	F	MOT				O	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE+	FY+-	JK+-
WP069	11	F	SIB	PRO	G3		A2	NNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY+-	JK+-
WP069	07	M	SIB				A2	NNSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK+-
WP070	42	M	FAT				A1	NNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK--
WP070	42	F	MOT				A1	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP070	05	M	SIB	PRO	G3		O	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP070	18	F	SIB				O	MNSS	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--

	IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP070	16	M	SIB				O	MNSZ	SS	D+	EI	A-	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP070	12	M	SIB				A1	MNSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK--
WP070	09	F	SIB				O	MNSS	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP070	09	M	SIB				A1	MNSS	CS	D+	EI	A-	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP071	41	M	FAT				O	NNSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP071		F	MOT				A1	MMSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE+	FY++	JK+-
WP071	09	F	SIB	PRO	G3		O	MNSS	SS	D-	II	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP072	34	M	FAT				O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP072	30	F	MOT				B	NNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P-		FY--	JK--
WP072	02	F	SIB	PRO	G3		O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK--
WP072	06	M	SIB				B	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P-		FY--	JK--
WP072	03	F	SIB				O	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK--
WP073	60	M	FAT				A1	MMSZ	CC	D+	II	A-	C+K-	KP--	LU--	P-	LE-	FY++	JK--
WP073	58	F	MOT				A1	MMZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE+	FY++	JK++
WP073	22	M	SIB	PRO	G3		A1	MMZZ	CS	D+	EI	A-	C+K-	KP--	LU--	P-	LE+	FY--	JK--
WP073	38	M	SIB				A1	MMSZ	CC	D+	II	A-	C+K-	KP--	LU--	P-	LE-	FY--	JK--
WP073	36	M	SIB				A1	MMZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE+	FY++	JK--
WP073	34	M	SIB				A1	MMSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP073	29	M	SIB				A1	MMSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE+	FY++	JK--
WP074	30	M	FAT				A1	NNZZ	SS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK+-
WP074	31	F	MOT				O	MMZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK+-
WP074	06	M	SIB	PRO	G3		A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK+-
WP074	08	M	SIB				O	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK+-
WP075	60	M	FAT				A1	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK+-
WP075	55	F	MOT				O	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP075	12	F	SIB	PRO	G3		A1	MMZZ	SS	D+	EE	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP075	20	M	SIB				O	MMZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP075	16	M	SIB				A1	NNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK++
WP076	73	M	FAT				A1	MMSS	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK--
WP076	67	F	MOT				O	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP076	35	F	SIB	PRO	G3		A1	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK--
WP076	43	M	SIB				O	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK--
WP076	39	F	SIB				A1	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK++
WP077	42	M	FAT				A1	MNSZ	CS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK+-
WP077	41	F	MOT				O	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK--
WP077	08	F	SIB	PRO	G3		O	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP077	13	M	SIB				A1	MMSS	CC	D+	II	A-	C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP078	32	M	FAT				O	MMSS	SS	D+	EI	A-	C+K+	KP--	LU--	P+	LE+	FY--	JK--
WP078	28	F	MOT				A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP078	01	F	SIB	PRO	G3		A1	MMSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP079	50	M	FAT				A1	MNSS	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP079	45	F	MOT				O	MMZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP079	05	M	SIB	PRO	G3		A1	MMSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP079	12	F	SIB				A1	MMSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK+-
WP079	09	F	SIB				A1	MMSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK+-

IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	EY	KIDD
WP080	55 M	FAT				O	NNZZ	CS	D-	II	U+A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP080	46 F	MOT				O	MNSZ	SS	D+	EI	A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP080	17 M	SIB	PRO	G3		O	MNSZ	CS	D-	II	U+A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP080	21 M	SIB				O	MNSZ	SS	D+	EI	A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP080	11 M	SIB				O	MNSZ	SS	D-	II	A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP080	09 F	SIB				O	MNSZ	SS	D+	EI	A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP081	22 M	FAT				B	MMSZ	SS	D+	EE	A-	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP081	17 F	MOT				O	MMSZ	CS	D+	EI	A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP081	03 M	SIB	PRO	G3		B	MMSZ	CS	D+	EI	A-	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP082	25 M	FAT				O	MMZZ	CWC	D+	II	A+	C+K+	KP-	LU+	P+	LE+	EY+	JK+
WP082	28 F	MOT				A1	MMSZ	CS	D+	II	A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP082	08 M	SIB	PRO	G3		A1	MMSZ	CWC	D+	II	A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP082	08 M	SIB				A1	MNSZ	CC	D+	II	A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP082	06 F	SIB				A1	MMSZ	CC	D+	II	A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP083	31 M	FAT				O	MNZZ	CS	D+	II	A+	C+K+	KP-	LU+	P+	LE-	EY+	JK+
WP083	26 F	MOT				A1	MNZZ	SS	D-	II	A-	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP083	04 F	SIB	PRO	G3		A1	MMZZ	CS	D+	II	A+	C+K+	KP-	LU+	P+	LE-	EY+	JK+
WP083	02 M	SIB				A1	MNZZ	CS	D+	II	A-	C+K+	KP-	LU+	P+	LE-	EY+	JK+
WP083	08 F	SIB				A2	MNZZ	CS	D+	II	A+	C+K+	KP-	LU+	P+	LE-	EY+	JK+
WP084	32 M	FAT				O	MNSZ	CS	D+	II	A-	C+K+	KP-	LU+	P+	LE-	EY+	JK+
WP084	30 F	MOT				A2	MNZZ	SS	D-	II	A+	C+K+	KP-	LU+	P+	LE-	EY+	JK+
WP084	06 F	SIB	PRO	G3		A2	MNZZ	CS	D+	II	A+	C+K+	KP-	LU+	P+	LE-	EY+	JK+
WP084	09 M	SIB				A2	MMSZ	CS	D+	II	A+	C+K+	KP-	LU+	P+	LE-	EY+	JK+
WP084	01 F	SIB				O	MMSZ	CS	D+	II	A+	C+K+	KP-	LU+	P+	LE-	EY+	JK+
WP085	41 M	FAT				O	MNZZ	CS	D+	II	A-	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP085	38 F	MOT				O	MNZZ	CS	D+	II	A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP085	05 F	SIB	PRO	G3		O	MNZZ	SS	D-	II	A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP085	10 M	SIB				O	MMZZ	CC	D+	II	A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP085	12 M	SIB				O	MNZZ	CC	D+	II	A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP086	40 M	FAT				O	MNSZ	CS	D+	II	A-	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP086	43 F	MOT				B	MNSZ	CS	D+	EI	A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP086	01 M	SIB	PRO	G3		B	MNZZ	CS	D+	II	A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP086	06 F	SIB				O	MNSZ	SS	D+	EI	A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP086	06 F	SIB				O	MNSZ	SS	D+	EI	A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP087	49 M	FAT				O	NNZZ	CS	D-	II	A-	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP087	42 F	MOT				O	MNSZ	CS	D+	II	A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP087	11 F	SIB	PRO	G3		O	NNZZ	CS	D+	II	A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP087	16 M	SIB				O	NNZZ	CS	D+	II	A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP087	13 M	SIB				O	NNZZ	SS	D-	II	A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP087	09 M	SIB				O	NNZZ	CS	D+	II	A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP088	58 M	FAT				O	NNZZ	CC	D+	II	A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP088	58 F	MOT				O	MNZZ	SS	D+	EE	A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP088	15 F	SIB	PRO	G3		O	MNZZ	CS	D+	EI	A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP088	34 F	SIB				O	NNZZ	CS	D+	EI	A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP088	30 M	SIB				O	MNZZ	CS	D+	EI	A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP088	29 M	SIB				O	MNZZ	CS	D+	EI	A-	C+K-	KP-	LU+	P+	LE-	EY+	JK+
WP088	25 M	SIB				O	MNZZ	CS	D+	EI	A+	C+K-	KP-	LU+	P+	LE-	EY+	JK+

	IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP088	19	M	SIB				O	NNZZ	CS	D+	EI	A-	C+K-	KP--	LU--	P-		FY++	JK++
WP089	44	M	FAT				B	MMSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-		FY--	JK++
WP089	40	F	MOT				A1	NNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP089	01	M	SIB	PRO	G3		A1	MNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP089	16	F	SIB				A1	MNSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P-		FY++	JK++
WP089	15	F	SIB				A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-		FY++	JK--
WP089	07	F	SIB				A1B	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-		FY--	JK++
WP090	56	M	FAT				A1	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P-	LE+	FY--	JK++
WP090	46	F	MOT				B	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK+-
WP090	05	M	SIB	PRO	G3		A1B	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK+-
WP090	20	F	SIB				O	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP090	18	F	SIB				A1	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK++
WP090	16	M	SIB				B	MNSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+		FY++	JK+-
WP090	14	M	SIB				O	MMSS	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP090	11	F	SIB				B	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P-		FY++	JK+-
WP090	04	F	SIB				A1B	MMSS	CS	D+	II	A+	C+K-	KP--	LU--	P-		FY--	JK++
WP091	58	M	FAT				B	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+		FY++	JK+-
WP091	59	F	MOT				A1	MMSZ	SS	D+	EE	A+	C+K-	KP--	LU--	P+	LE-	FY+-	JK++
WP091	15	F	SIB	PRO	G3		A1	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK+-
WP091	25	F	SIB				A1B	MNZZ	SS	D+	EE	A+	C+K-	KP--	LU--	P+		FY+-	JK++
WP091	23	F	SIB				O	MMZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK+-
WP091	31	M	SIB				A1	MNZZ	SS	D+	EE	A+	C+K-	KP--	LU--	P+	LE-	FY+-	JK++
WP092	45	M	FAT				O	MNZZ	CS	D+	EI	A-	C+K+	KP--	LU++	P+	LE-	FY++	JK++
WP092	32	F	MOT				O	MMSS	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK+-
WP092	07	M	SIB	PRO	G3		O	MMSZ	CS	D+	EI	A+	C+K-	KP--	LU++	P+	LE-	FY--	JK+-
WP092	11	M	SIB				O	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP092	02	F	SIB				O	MMSZ	CC	D+	II	A+	C+K+	KP--	LU--	P+	LE-	FY+-	JK+-
WP093	39	M	FAT				O	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK+-
WP093	36	F	MOT				A1	MMSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP093	01	F	SIB	PRO	G3		O	MMSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK+-
WP093	13	M	SIB				O	MMSS	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP093	09	M	SIB				A1	MMSS	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK+-
WP094	56	M	FAT				O	MNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK+-
WP094	45	F	MOT				O	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK+-
WP094	06	F	SIB	PRO	G3		O	MMZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP094	18	F	SIB				O	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP094	16	F	SIB				O	NNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP094	13	M	SIB				O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP094	10	F	SIB				O	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP094	06	F	SIB				O	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP094	08	F	SIB				O	NNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP094	03	F	SIB				O	MMZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP095	46	M	FAT				O	MMSZ	SS	D-	II	A-	C+K-	KP--	LU--	P-	LE+	FY+-	JK++
WP095	48	F	MOT				A1	NNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP095	10	M	SIB	PRO	G3		A1	MNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY+-	JK++
WP095	19	F	SIB				A1	MNZZ	SS	D-	II	A-	C+K-	KP--	LU--	P+	LE-	FY+-	JK++
WP095	17	M	SIB				A1	MNZZ	SS	D-	II	A-	C+K-	KP--	LU--	P-	LE-	FY+-	JK+-

	IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP104	09	M	SIB				A1	MMSS	SS	D-	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP104	05	F	SIB				O	MNSZ	CS	D+	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP104	03	F	SIB				A1	MMSS	SS	D-	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP104	01	M	SIB				O	MNSZ	CS	D+	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP104	07	M	SIB				O	MMSS	CS	D+	II	A-	C+K-	KP++	LU++	P+	LE+	FY++	JK++
WP105	50	M	FAT				A1	NNZZ	CWS	D+	II	A-	C+K+	KP++	LU++	P+	LE-	FY++	JK++
WP105	40	F	MOT				O	MNZZ	CS	D+	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP105	03	M	SIB	PRO	G3		A1	NNZZ	SS	D-	II	A+	C+K-	KP++	LU++	P-	LE-	FY++	JK++
WP105	18	M	SIB				A1	NNZZ	CWS	D+	II	A+	C+K-	KP++	LU++	P-	LE-	FY++	JK++
WP105	16	F	SIB				A1	MNZZ	CWS	D+	II	A+	C+K+	KP++	LU++	P+	LE-	FY++	JK++
WP105	08	F	SIB				A1	MNZZ	CWS	D+	II	A+	C+K-	KP++	LU++	P+	LE+	FY++	JK++
WP105	04	F	SIB				A1	NNZZ	SS	D-	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP106	45	M	FAT				O	MMSZ	CS	D+	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP106	41	F	MOT				A1	MNZZ	SS	D-	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP106	10	F	SIB	PRO	G3		O	MMSZ	CS	D+	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP106	21	F	SIB				O	MMSZ	SS	D-	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP106	19	M	SIB				A1	MNSZ	SS	D-	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP107	44	M	FAT				A2	MMSZ	CC	D+	II	A-	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP107	44	F	MOT				B	MNZZ	SS	D+	EI	A+	C+K-	KP++	LU++	P+		FY++	JK++
WP107	03	M	SIB	PRO	G3		O	MMZZ	CS	D+	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP107	13	M	SIB				O	MNSZ	CS	D+	II	A+	C+K-	KP++	LU++	P-	LE+	FY++	JK++
WP107	10	M	SIB				A2B	MNSZ	CS	D+	II	A+	C+K-	KP++	LU++	P+		FY++	JK++
WP107	06	M	SIB				A2B	MNSZ	CS	D+	II	A+	C+K-	KP++	LU++	P-		FY++	JK++
WP108	42	M	FAT			JAP	B	NNZZ	CS	D+	II	A+	C+K-	KP++	LU++	P+		FY++	JK++
WP108	41	F	MOT			JAP	A1	MMZZ	SS	D+	EE	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP108	01	M	SIB	PRO	G3	JAP	A1	MNZZ	CS	D+	EI	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP108	15	F	SIB			JAP	A1	MNZZ	SS	D+	EI	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP108	14	M	SIB			JAP	A1B	MNZZ	SS	D+	EI	A+	C+K-	KP++	LU++	P+		FY++	JK++
WP108	13	M	SIB			JAP	A1	MNZZ	CS	D+	EI	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP108	05	F	SIB			JAP	A1	MNZZ	CS	D+	EI	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP108	04	F	SIB			JAP	A1	MNZZ	SS	D+	EI	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP109	39	M	FAT				A2	NNZZ	CS	D+	II	A-	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP109	32	F	MOT				B	MMSZ	CS	D+	II		C+K-	KP++	LU++	P+		FY++	JK++
WP109	15	F	SIB	PRO	G3		A2B	MNSZ	CC	D+	II		C+K-	KP++	LU++	P+		FY++	JK++
WP110	56	M	FAT				O	MNZZ	SS	D+	EE	A+	C+K-	KP++	LU++	P+	LE+	FY++	JK++
WP110	47	F	MOT				O	MNZZ	SS	D+	EI	A+	C+K-	KP++	LU++	P+	LE+	FY++	JK++
WP110	05	M	SIB	PRO	G3		O	MNZZ	SS	D+	EE	A-	C+K-	KP++	LU++	P+	LE+	FY++	JK++
WP110	14	M	SIB				O	MNZZ	SS	D+	EI	A+	C+K-	KP++	LU++	P+	LE+	FY++	JK++
WP110	12	M	SIB				O	MMZZ	SS	D+	EI	A+	C+K-	KP++	LU++	P+	LE+	FY++	JK++
WP110	10	F	SIB				O	MNZZ	SS	D+	EI	A+	C+K-	KP++	LU++	P+	LE+	FY++	JK++
WP110	03	F	SIB				O	MNZZ	SS	D+	EE	A+	C+K-	KP++	LU++	P+	LE+	FY++	JK++
WP112	49	M	FAT				A1	NNZZ	CS	D+	II	A+	C+K-	KP++	LU++	P-	LE-	FY++	JK++
WP112	50	F	MOT				O	MNZZ	CS	D+	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP112	05	M	SIB	PRO	G3		O	NNZZ	CS	D+	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP112	08	M	SIB				O	MNZZ	SS	D-	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP113	33	M	FAT				A1	NNZZ	CS	D+	II	A+	C+K-	KP++	LU++	P+	LE+	FY++	JK++
WP113	34	F	MOT				B	MNZZ	SS	D+	EE	A-	C+K-	KP++	LU++	P-		FY++	JK++

	IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP113	01	M	SIB	PRO	G3		A1B	MNZZ	CS	D+	EI	A-	C+K-	KP--	LU--	P+		FY--	JK--
WP113	11	F	SIB				A1B	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P-		FY--	JK--
WP113	03	F	SIB				A1B	NNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+		FY++	JK--
WP114	67	M	FAT				O	MNSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP114	63	F	MOT				A1	MNSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE+	FY--	JK--
WP114	29	M	SIB	PRO	G3		A1	MNSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP115	59	M	FAT				A1	MMSS	CC	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP115	52	F	MOT				O	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK++
WP115	13	F	SIB	PRO	G3		O	MMSS	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK--
WP115	18	M	SIB				O	MMSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE+	FY--	JK--
WP115	16	F	SIB				A1	MMSS	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP115	15	F	SIB				A1	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK--
WP115	12	M	SIB				O	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE+	FY--	JK--
WP115	29	F	SIB				A1	MMSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE+	FY++	JK++
WP116	28	M	FAT				A1	NNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP116	27	F	MOT				A1	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+		FY++	JK--
WP116	02	F	SIB	PRO	G3		O	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP116	06	F	SIB				A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP117	41	M	FAT				A1	MNSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP117	43	F	MOT				O	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+		FY--	JK--
WP117	09	M	SIB	PRO	G3		A1	MMSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P-		FY--	JK++
WP117	16	F	SIB				O	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+		FY--	JK--
WP117	15	F	SIB				A1	MMSZ	SS	D-	II	A+	C+K-	KP--	LU--	P-		FY--	JK++
WP117	14	F	SIB				O	NNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP117	11	F	SIB				O	NNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+		FY--	JK--
WP117	09	M	SIB				O	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P-		FY--	JK++
WP117	08	M	SIB				O	MNSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP117	07	F	SIB				O	MNZZ	SS	D+	EE	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP117	05	F	SIB				A1	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP118	57	M	FAT				O	MNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP118	51	F	MOT				O	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP118	08	F	SIB	PRO	G3		O	MMZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP118	30	F	SIB				O	MMZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP118	18	M	SIB				O	MMZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP118	11	M	SIB					MNSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP119	66	M	FAT				O	MMZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP119	45	F	MOT				O	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP119	06	M	SIB	PRO	G3		O	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP119	19	F	SIB				O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP119	18	F	SIB				O	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP119	16	M	SIB				O	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP119	14	F	SIB				O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP119	13	M	SIB				O	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP119	09	M	SIB				O	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP119	07	M	SIB				O	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP120	45	M	FAT				A1	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK--
WP120	49	F	MOT				B	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+		FY--	JK--
WP120	08	M	SIB	PRO	G3		A1B	MMSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+		FY--	JK--

	IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP120	14	F	SIB				B	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+		FY++	JK--
WP120	15	F	SIB				B	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+		FY++	JK--
WP121	30	M	FAT				A2	MMSZ	SS	D-	II	A-	C+K-	KP--	LU++	P+	LE-	FY++	JK--
WP121	33	F	MOT				B	NNZZ	CC	D+	II	A-	C+K-	KP--	LU++	P-		FY++	JK++
WP121	01	M	SIB	PRO	G3		A2B	MNSZ	CS	D+	II	A-	C+K-	KP--	LU++	P+		FY+-	JK++
WP121	05	M	SIB				B	MNZZ	CS	D+	II	A-	C+K-	KP--	LU++	P+		FY+-	JK++
WP121	03	M	SIB				A2	MNZZ	CS	D+	II	A-	C+K-	KP--	LU++	P-	LE-	FY++	JK++
WP122	46	M	FAT				B	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK--
WP122	35	F	MOT				O	MMZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY+-	JK++
WP122	02	M	SIB	PRO	G3		B	MNZZ	CC	D+	II	A-	C+K-	KP--	LU--	P+		FY++	JK++
WP122	13	M	SIB				B	MNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+		FY++	JK--
WP122	12	M	SIB				B	MNZZ	CC	D+	II	A-	C+K-	KP--	LU--	P+		FY++	JK++
WP122	10	F	SIB				O	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP122	05	F	SIB				O	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK--
WP122	03	M	SIB				O	MNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP123	21	M	FAT				B	MNSS	CS	D+	EI	A+	C+K-	KP--	LU--	P+		FY+-	JK++
WP123	20	F	MOT				A1	MNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+		FY--	JK++
WP123	01	F	SIB	PRO	G3		A1	MNSZ	CS	D+	EI	A-	C+K-	KP--	LU--	P+		FY++	JK++
WP124	23	M	FAT				O	NNSZ	CWC	D+	II		C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP124	21	F	MOT				O	NNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP124	03	M	SIB	PRO	G3		O	NNZZ	CS	D-	II	U+A+	C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP124	04	F	SIB				O	NNSZ	CWS	D+	II		C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP125	40	M	FAT				A1	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY+-	JK++
WP125	39	F	MOT				A1	MMZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP125	01	F	SIB	PRO	G3		O	MNZZ	SS	D+	EE	A+	C+K-	KP--	LU--	P-	LE-	FY+-	JK--
WP125	16	F	SIB				A1	MMSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP125	12	M	SIB				A1	MMSZ	SS	D+	EE	A-	C+K-	KP--	LU--	P+	LE-	FY+-	JK--
WP125	06	F	SIB				A1	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY+-	JK++
WP126	58	M	FAT				A1	MMSS	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK+-
WP126	54	F	MOT				A1	MMZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK+-
WP126	13	M	SIB	PRO	G3		A1	MMSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK+-
WP126	25	F	SIB				A1	MMSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK+-
WP126	23	F	SIB				A1	MMSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK+-
WP126	22	M	SIB				O	MMSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK+-
WP127	52	M	FAT				O	MMSS	CWC	D+	II	A-	C+K-	KP--	LU--	P-	LE-	FY+-	JK++
WP127	44	F	MOT				A1	MNSZ	SS	D+	EE	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP127	01	M	SIB	PRO	G3		O	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP127	19	M	SIB				A1	MMSS	CWS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP127	17	M	SIB				A1	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP127	15	F	SIB				A1	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP127	09	M	SIB				O	MMSS	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK--
WP127	21	F	SIB				O	MMSS	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP128	53	M	FAT				A1	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP128	52	F	MOT				O	MMSZ	SS	D+	II	A+	C+K-	KP--	LU--	P-	LE+	FY++	JK--
WP128	09	F	SIB	PRO	G3		A1	MMZZ	SS	D-	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP128	24	M	SIB				O	MNSZ	SS	D+	II	A-	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP128	21	F	SIB				O	MNSS	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE+	FY+-	JK--

	IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP128	17	M	SIB				O	MMSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP128	16	M	SIB				A2	MMSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP129	42	M	FAT			IND	A1B	MMZZ	CC	D+	II	A+	C+K-	KP--	LU--	P-		FY++	JK+-
WP129	31	F	MOT			IND	B	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP129	01	M	SIB	PRO	G3	IND	A1B	MNZZ	CC	D+	II	A-	C+K-	KP--	LU--	P+		FY++	JK+-
WP129	03	M	SIB	PRO	G3	IND	A1B	MMZZ	CC	D+	II	A-	C+K-	KP--	LU--	P-		FY+-	JK++
WP129	08	M	SIB			IND	B	MNZZ	CC	D+	II	A-	C+K-	KP--	LU--	P-		FY+-	JK++
WP130	45	M	FAT				A1	MNSZ	SS	D+	EE	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP130	40	F	MOT				O	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP130	14	M	SIB	PRO	G3		O	MMSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP130	18	F	SIB				A1	MNSS	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP130	16	M	SIB				A1	MNSS	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK+-
WP130	10	M	SIB				O	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP130	03	F	SIB				O	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK++
WP130	01	F	SIB				A1	MNSS	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE+	FY++	JK++
WP131	62	M	FAT				A1	NNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK++
WP131	60	F	MOT				A1	MMZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK--
WP131	23	F	SIB	PRO	G3		A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE+	FY++	JK--
WP132	37	M	FAT				B	MMZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP132	35	F	MOT				A1	MNSZ	CS	D+	II	A+	C+K-	KP--	LU++	P+	LE-	FY--	JK+-
WP132	05	M	SIB	PRO	G3		A1	MMSZ	CC	D+	II	A+	C+K-	KP--	LU++	P+	LE-	FY--	JK+-
WP132	08	F	SIB				A1B	MMSZ	CS	D+	II	A+	C+K-	KP--	LU++	P+		FY--	JK++
WP132	06	M	SIB				A1	MMSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP133	53	M	FAT				A1	MMZZ	CS	D+	II		C+K+	KP--	LU--	P+	LE-	FY++	JK++
WP133	54	F	MOT				B	MNSZ	CS	D+	II		C+K-	KP--	LU--	P+		FY++	JK++
WP133	16	F	SIB	PRO	G3		B	MNZZ	SS	D-	II		C+K-	KP--	LU--	P+		FY++	JK++
WP133	18	F	SIB				O	MNSZ	CS	D+	II		C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP134	36	M	FAT				A2	MMSS	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP134	36	F	MOT				O	MNSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK+-
WP134	01	F	SIB	PRO	G3		O	MMSS	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE+	FY+-	JK++
WP134	09	F	SIB				A2	MMSS	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK+-
WP134	07	M	SIB				A2	MNSZ	SS	D+	EI	A-	C+K-	KP--	LU--	P+	LE+	FY--	JK+-
WP134	06	F	SIB				A2	MNSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK++
WP134	05	M	SIB				O	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK+-
WP134	03	M	SIB				O	MMSS	SS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK+-
WP135	41	M	FAT				O	MMSZ	CC	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP135	41	F	MOT				A1	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK+-
WP135	02	M	SIB	PRO	G3		A1	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK+-
WP136	38	M	FAT				A1	MNSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP136	36	F	MOT				O	MNSS	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY+-	JK++
WP136	11	F	SIB	PRO	G3		A1	MMSS	SS	D-	II	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP136	14	F	SIB				A2	MNSS	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP136	11	F	SIB				A1	MNSZ	SS	D-	II	A-	C+K-	KP--	LU--	P+	LE-	FY+-	JK++
WP137	66	M	FAT				A1	MMZZ	SS	D-	II	A+	C+K-	KP--	LU--	P-		FY--	JK++
WP137	62	F	MOT				A1	MMZZ	CC	D+	II	A-	C+K+	KP--	LU--	P-		FY--	JK--
WP137	21	F	SIB	PRO	G3		A1	MMZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-		FY--	JK++

	IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP137	29	M	SIB				A1	MMZZ	CS	D+	II	A-	C+K+	KP--	LU--	P-		FY--	JK++
WP138	55	M	FAT				B	NNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+		FY--	JK--
WP138	54	F	MOT				O	MNZZ	CS	D+	II	A+	C+K+	KP--	LU--	P+	LE+	FY--	JK++
WP138	14	M	SIB	PRO	G3		B	MNZZ	SS	D-	II	A-	C+K+	KP--	LU--	P+		FY--	JK++
WP138	27	M	SIB				O	NNZZ	SS	D-	II	A+	C+K+	KP--		P+	LE--	FY--	JK++
WP138	25	F	SIB				O	NNZZ	CS	D+	II	A+	C+K+	KP--	LU--	P+		FY--	JK--
WP138	23	F	SIB				B	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK--
WP138	21	M	SIB				O	NNZZ	SS	D-	II	A+	C+K+	KP--	LU--	P+	LE-	FY--	JK--
WP138	19	M	SIB				O	MNZZ	SS	D-	II	A+	C+K+	KP--	LU--	P+	LE-	FY--	JK++
WP138	13	F	SIB				B	MNZZ	SS	D-	II	A+	C+K+	KP--	LU--	P+		FY--	JK--
WP138	10	F	SIB				B	NNZZ	SS	D-	II	A+	C+K+	KP--	LU--	P+		FY--	JK--
WP139	38	M	FAT				O	MMSS	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP139	38	F	MOT				O	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP139	02	F	SIB	PRO	G3		O	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP139	14	M	SIB				O	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK--
WP139	12	F	SIB				O	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP139	09	M	SIB				O	MMSZ	CS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP139	07	M	SIB				O	MNSZ	CS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP139	05	M	SIB				O	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP139	03	F	SIB				O	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP139	01	M	SIB				O	MMSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP140	39	M	FAT				A2B	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+		FY++	JK--
WP140	36	F	MOT				O	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP140	09	M	SIB	PRO	G3		B	MMSZ	SS	D+	EE	A+	C+K-	KP--	LU--	P-		FY--	JK--
WP140	12	M	SIB				A2	NNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP141	33	M	FAT				O	MMSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP141	30	F	MOT				A1	MMSS	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP141	01	F	SIB	PRO	G3		O	MMSS	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK--
WP141	04	M	SIB				O	MMSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP141	02	M	SIB				O	MMSS	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP142	67	M	FAT				A1	MMSS	CC	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK--
WP142	62	F	MOT				A1	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP142	18	M	SIB	PRO	G3		A1	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE+	FY++	JK--
WP142	34	M	SIB				A1	MMSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP142	24	F	SIB				A1	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP142	22	M	SIB				A1	MMSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE+	FY++	JK++
WP143	55	M	FAT				O	MNZZ	SS	D+	EI	A-	C+K-	KP--	LU--	P+	LE+	FY++	JK++
WP143	46	F	MOT				A1	NNZZ	SS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP143	10	M	SIB	PRO	G3		A1	NNZZ	SS	D+	EE	A-	C+K-	KP--	LU--	P+	LE+	FY++	JK++
WP143	14	M	SIB				A1	NNZZ	SS	D+	EE	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP143	13	F	SIB				A1	NNZZ	SS	D+	EE	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP143	17	F	SIB				O	NNZZ	SS	D-	II	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP143	12	F	SIB				A1	NNZZ	SS	D+	EE	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP144	45	M	FAT				O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP144	39	F	MOT				A2	MMZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP144	08	F	SIB	PRO	G3		A2	MMZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP144	13	M	SIB				A2	MNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP144	10	M	SIB				O	MNZZ	SS	D+	EI	A-	C+K-	KP--	LU--	P+	LE+	FY++	JK++

	IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
			SIB				A2	MMZZ	SS	D+	II	A-	C+K-	KP--	LU--	P+	LE+	FY--	JK--
WP144	04	M																	
WP145	50	M	FAT				A1	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+		FY+-	JK+-
WP145	44	F	MOT				B	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P-		FY+-	JK++
WP145	04	F	SIB	PRO	G3		O	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+		FY+-	JK++
WP145	18	F	SIB				A1	MMSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+		FY+-	JK+-
WP145	16	M	SIB				B	MMSZ	CC	D+	II	A-	C+K-	KP--	LU--	P+		FY+-	JK+-
WP146	47	M	FAT				O	MNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP146	48	F	MOT				B	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP146	03	F	SIB	PRO	G3		O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP146	21	M	SIB				O	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK+-
WP146	14	M	SIB				B	NNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP146	11	M	SIB				O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP147	44	M	FAT				O	MNSZ	CWS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP147	45	F	MOT				O	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK+-
WP147	03	M	SIB	PRO	G3		O	NNSZ	CWS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP147	15	M	SIB				O	MMSZ	CWS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK+-
WP147	14	F	SIB				O	MNZZ	CWS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK+-
WP147	05	M	SIB				O	MMSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP148	73	M	FAT				O	NNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP148	66	F	MOT				O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK--
WP148	29	F	SIB	PRO	G3		O	NNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P-	LE+	FY++	JK++
WP148	33	M	SIB				O	NNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY+-	JK--
WP149	39	M	FAT				O	MNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+		FY++	JK++
WP149	43	F	MOT				A1	MMSZ	CWS	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK+-
WP149	01	M	SIB	PRO	G3		O	MNSZ	CWC	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP149	15	M	SIB				A1	MMSZ	CWS	D+	II	A+	C+K-	KP--	LU--	P+		FY+-	JK+-
WP149	12	F	SIB				A1	MMZZ	CWS	D+	II	A+	C+K-	KP--	LU--	P-		FY++	JK++
WP149	08	M	SIB				A1	MNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P-		FY++	JK++
WP149	06	M	SIB				A1	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P-		FY++	JK+-
WP149	05	F	SIB				O	MMSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+		FY+-	JK+-
WP149	02	M	SIB				A1	MMSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+		FY++	JK+-
WP150	41	M	FAT				A1	NNZZ	SS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP150	41	F	MOT				A1	MNZZ	SS	D+	EE	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP150	14	F	SIB	PRO	G3		A1	NNZZ	SS	D+	EE	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP150	15	M	SIB				A1	MNZZ	SS	D+	EE	A-	C+K-	KP--	LU--	P-	LE-	FY--	JK--
WP150	16	M	SIB				A1	NNZZ	SS	D+	EI	A-	C+K-	KP--	LU--	P-	LE-	FY--	JK+-
WP150	09	F	SIB				A1	NNZZ	SS	D+	EE	A-	C+K-	KP--	LU--	P-	LE-	FY--	JK--
WP150	02	F	SIB				O	NNZZ	SS	D+	EE	A-	C+K-	KP--	LU--	P-	LE-	FY--	JK+-
WP151	50	M	FAT				O	MMSZ	CC	D+	II	A-	C+K-	KP--	LU++	P-	LE-	FY++	JK+-
WP151	49	F	MOT				O	MMZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE+	FY+-	JK--
WP151	08	F	SIB	PRO	G3		O	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY+-	JK++
WP151	17	M	SIB				O	MMZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY+-	JK++
WP151	15	M	SIB				O	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY+-	JK++
WP151	12	F	SIB				O	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY+-	JK++
WP152	61	M	FAT				O	MMSZ	CS	D+	EI	A-	C+K-	KP--	LU--	P+	LE+	FY++	JK+-
WP152	51	F	MOT				A1	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK--
WP152	10	M	SIB	PRO	G3		A1	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++

	IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP152	18	M	SIB				O	MNSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP153	61	M	FAT				A1	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP153	58	F	MOT				O	MMSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP153	19	M	SIB	PRO	G3		O	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY+-	JK--
WP153	32	M	SIB				O	MMZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY+-	JK--
WP153	29	M	SIB				A1	MMZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP153	25	F	SIB				A1	MMZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP153	23	F	SIB				A1	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP154	40	M	FAT				O	MMSS	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP154	32	F	MOT				A1	MMSS	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP154	06	M	SIB	PRO	G3		A1	MMSS	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP155	24	M	FAT				O	MNZZ	SS	D+	EE	A-	C+K-	KP--	LU--	P+		FY--	JK--
WP155	22	F	MOT				A1	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP155	01	M	SIB	PRO	G3		A1	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP156	31	M	FAT				O	MNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK+-
WP156	27	F	MOT				A1B	MMZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP156	04	F	SIB	PRO	G3		A1	MMZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK++
WP156	03	F	SIB				A1	MMZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE--	FY--	JK+-
WP157	67	M	FAT				O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP157	58	F	MOT				B	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK+-
WP157	25	M	SIB	PRO	G3		B	MNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+		FY++	JK++
WP158	48	M	FAT				B	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P-		FY--	JK+-
WP158	47	F	MOT				B	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-		FY--	JK++
WP158	04	M	SIB	PRO	G3		O	MMZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-		FY--	JK+-
WP158	08	M	SIB				B	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P-		FY--	JK++
WP158	07	M	SIB				B	NNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P-		FY--	JK+-
WP159	51	M	FAT				A1B	MNSS	CS	D+	EI	A+	C+K+	KP--	LU--	P+	LE-	FY+-	JK+-
WP159	55	F	MOT				O	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK+-
WP159	14	F	SIB	PRO	G3		B	NNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK+-
WP159	25	F	SIB				B	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY+-	JK+-
WP160	32	M	FAT				O	MMZZ	SS	D+	EE	A-	C+K-	KP--	LU--	P+		FY--	JK++
WP160	29	F	MOT				O	NNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-		FY+-	JK++
WP160	03	F	SIB	PRO	G3		O	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-		FY++	JK--
WP161	58	M	FAT				A1	MNZZ	CS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK+-
WP161	52	F	MOT				B	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+		FY--	JK+-
WP161	13	M	SIB	PRO	G3		A1	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK+-
WP161	32	M	SIB				B	NNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+		FY--	JK+-
WP161	16	M	SIB				O	NNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK+-
WP161	15	M	SIB				A1	MNZZ	SS	D+	EE	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK+-
WP162	46	M	FAT				A1	MNSZ	CC	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP162	43	F	MOT				O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK+-
WP162	02	F	SIB	PRO	G3		A1	NNZZ	CC	D+	II	A-	C+K-	KP--	LU--	P+	LE+	FY--	JK+-
WP162	21	F	SIB				A1	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP162	19	M	SIB				A1	MNSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP162	18	M	SIB				A1	MNSZ	CC	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK+-

	IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP162	17	M	SIB				A1	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK+-
WP162	15	F	SIB				O	MNSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK+-
WP162	13	M	SIB				A1	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK+-
WP162	11	F	SIB				A1	MNZZ	CC	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP162	09	F	SIB				A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP162	08	M	SIB				O	NNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK+-
WP162	07	M	SIB				A1	MMSZ	CC	D+	II	A-	C+K-	KP--	LU +	P+	LE-	FY++	JK+-
WP162	06	F	SIB				O	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK+-
WP163	49	F	FAT				A1	MNSZ	SS	D-	II	A+	C+K+	KP--	LU--	P-	LE+	FY++	JK++
WP163	43	F	MOT				O	MMSZ	CS	D+	II	A+	C+K-	KP--	LU++	P+	LE-	FY--	JK++
WP163	11	M	SIB	PRO	G3		A1	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP163	12	F	SIB				A1	MMSS	SS	D-	II	A+	C+K-	KP--	LU++	P+	LE-	FY--	JK--
WP163	10	F	SIB				A2	MNSZ	SS	D-	II	A+	C+K-	KP--	LU++	P-	LE-	FY--	JK++
WP163	06	M	SIB				A1	MNSZ	CS	D+	II	A+	C+K+	KP--	LU++	P+	LE-	FY++	JK++
WP163	03	F	SIB				A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU++	P-	LE-	FY--	JK+-
WP163	03	F	SIB				A2	MNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK+-
WP164	36	M	FAT				O	MNZZ	SS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP164	30	F	MOT				O	MMSS	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK++
WP164	01	M	SIB	PRO	G3		O	MNSZ	SS	D-	II	A-	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP164	07	F	SIB				O	MMSZ	SS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP164	05	F	SIB				O	MNSZ	SS	D-	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP165	63	M	FAT				A1	MNSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP165	55	F	MOT				A1	MNSS	SS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK+-
WP165	10	F	SIB	PRO	G3		A1	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP165	30	M	SIB				A1	MMSS	SS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP165	25	F	SIB				A1	MNSZ	SS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP165	23	F	SIB				A1	MNSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP165	19	M	SIB				A1	MNSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP165	16	M	SIB				A1	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP165	14	M	SIB				O	MNSS	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP165	11	F	SIB				A1	MNSZ	SS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP166	31	M	FAT				O	NNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP166	25	F	MOT				O	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP166	07	M	SIB	PRO	G3		O	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK++
WP167	38	M	FAT				A2B	MNZZ	SS	D-	II	A-	C+K-	KP--	LU--	P+		FY++	JK++
WP167	32	F	MOT				O	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP167	04	F	SIB	PRO	G3		B	MNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+		FY--	JK--
WP167	13	F	SIB				A2	MMZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+		FY--	JK+-
WP167	11	M	SIB				B	MMZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP167	09	F	SIB				B	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP167	07	F	SIB				B	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+		FY--	JK+-
WP167	05	M	SIB				B	MNZZ	SS	D-	II		C+K-	KP--	LU--	P+		FY--	JK--
WP168	22	M	FAT				O	MNSZ	SS	D+	EE	A-	C+K-	KP--	LU--	P-		FY++	JK++
WP168	18	F	MOT				A1	MNZZ	CS	D-	EI	U+A+	C+K-	KP--	LU--	P+		FY--	JK++
WP168	06	M	SIB	PRO	G3		A1	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-		FY--	JK++
WP168	02	F	SIB				A1	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-		FY--	JK++
WP169	43	M	FAT				B	MMZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP169	41	F	MOT				O	MMSS	SS	D+	EE	A+	C+K-	KP--	LU--	P+		FY+	JK+

	IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP169	01	F	SIB	PRO	G3		O	MMSZ	CS	D+	EI	A+	C+K-	KP-+	LU-+	P-	LE-	FY++	JK++
WP169	13	M	SIB				B	MMSZ	CS	D+	EI	A+	C+K-	KP-+	LU-+	P+		FY+-	JK+-
WP169	09	F	SIB				B	MMSZ	CS	D+	EI	A+	C+K-	KP-+	LU-+	P+		FY++	JK++
WP170	58	M	FAT				O	NNZZ	CS	D-	II	U+A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK++
WP170	56	F	MOT				O	MNSZ	CC	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK++
WP170	20	F	SIB	PRO	G3		O	MNSZ	CC	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK--
WP170	30	F	SIB				O	NNZZ	CC	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK+-
WP171	42	M	FAT				A2B	NNZZ	CC	D+	II	A+	C+K-	KP-+	LU-+	P+		FY++	JK++
WP171	45	F	MOT				B	NNSZ	SS	D+	EI	A+	C+K-	KP-+	LU-+	P+		FY++	JK+-
WP171	01	M	SIB	PRO	G3		B	NNZZ	CS	D+	EI	A-	C+K-	KP-+	LU-+	P+		FY+-	JK++
WP171	13	F	SIB				B	NNSZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+		FY++	JK++
WP171	12	M	SIB				B	NNZZ	CS	D+	II	A-	C+K-	KP-+	LU-+	P+		FY++	JK++
WP171	09	F	SIB				B	NNSZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+		FY++	JK++
WP171	08	M	SIB				B	NNSZ	CS	D+	EI	A-	C+K-	KP-+	LU-+	P+		FY+-	JK+-
WP171	02	F	SIB				A2	NNSZ	CS	D+	EI	A+	C+K-	KP-+	LU-+	P-	LE-	FY++	JK+-
WP172	44	M	FAT				A1B	NNZZ	CS	D+	II	A-	C+K+	KP-+	LU-+	P+	LE-	FY++	JK++
WP172	41	F	MOT				O	NNZZ	CS	D+	EI	A-	C+K-	KP-+	LU-+	P+	LE-	FY--	JK--
WP172	03	M	SIB	PRO	G3		B	NNZZ	CC	D+	II	A-	C+K+	KP-+	LU-+	P+	LE+	FY--	JK--
WP172	17	F	SIB				B	NNZZ	CS	D+	EI	A-	C+K+	KP-+	LU-+	P+	LE-	FY--	JK++
WP172	16	F	SIB				A1	NNZZ	SS	D+	EI	A-	C+K-	KP-+	LU-+	P+	LE-	FY++	JK++
WP172	12	F	SIB				A1	NNZZ	SS	D+	EI	A-	C+K-	KP-+	LU-+	P+	LE-	FY++	JK--
WP172	11	F	SIB				B	NNZZ	CS	D+	II	A-	C+K-	KP-+	LU-+	P+	LE-	FY--	JK++
WP172	08	F	SIB				B	NNZZ	SS	D+	EI	A-	C+K-	KP-+	LU-+	P+	LE-	FY++	JK--
WP172	06	M	SIB				A1	NNZZ	CS	D+	II	A-	C+K+	KP-+	LU-+	P+	LE-	FY++	JK--
WP173	26	M	FAT				A2B	MNSS	CC	D+	II	A+	C+K-	KP-+	LU-+	P+		FY--	JK++
WP173	23	F	MOT				O	MMSS	CC	D+	II	A+	C+K-	KP-+	LU-+	P-	LE-	FY--	JK++
WP173	01	M	SIB	PRO	G3		B	MNSS	CC	D+	II	A+	C+K-	KP-+	LU-+	P+		FY--	JK--
WP174	65	M	FAT				A1	MNSZ	CC	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK+-
WP174	60	F	MOT				O	NNZZ	SS	D+	EI	A-	C+K-	KP-+	LU-+	P+	LE-	FY++	JK+-
WP174	30	F	SIB	PRO	G3		A2	NNZZ	CS	D+	EI	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK+-
WP174	38	F	SIB				A2	NNZZ	CS	D+	EI	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK+-
WP174	37	M	SIB				A2	MNSZ	CS	D+	II	A-	C+K-	KP-+	LU-+	P+	LE-	FY++	JK+-
WP174	35	F	SIB				A2	MNSZ	CS	D+	EI	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK+-
WP174	34	M	SIB				A2	MNSZ	CS	D+	EI	A-	C+K-	KP-+	LU-+	P+	LE-	FY++	JK+-
WP174	28	F	SIB				A2	MNSZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK+-
WP174	23	M	SIB				O	NNZZ	CS	D+	II	A-	C+K-	KP-+	LU-+	P+	LE-	FY++	JK+-
WP175	42	M	FAT				O	MNSZ	CS	D+	II	A-	C+K-	KP-+	LU-+	P+	LE-	FY--	
WP175	36	F	MOT				A2	NNZZ	CS	D+	EI	A+	C+K-	KP-+	LU-+	P+	LE-	FY--	
WP175	03	F	SIB	PRO	G3		A2	MNSZ	SS	D+	EI	A+	C+K-	KP-+	LU-+	P+	LE-	FY--	
WP175	06	F	SIB				A2	MNSZ	SS	D+	EI	A+	C+K-	KP-+	LU-+	P+	LE-	FY--	
WP175	01	M	SIB				A2	NNZZ	CS	D+	EI	A+	C+K-	KP-+	LU-+	P-	LE-	FY--	JK+-
WP176	32	M	FAT				A1	MNZZ	CC	D+	II	A-	C+K-	KP-+	LU-+	P+		FY+-	JK+-
WP176	25	F	MOT				B	MMSZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+		FY++	JK+-
WP176	02	F	SIB	PRO	G3		A2B	MMZZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+		FY+-	JK+-
WP176	07	M	SIB				A2B	MNZZ	CS	D+	II	A-	C+K-	KP-+	LU-+	P+		FY+-	JK+-
WP177	31	M	FAT				A1	MMSZ	SS	D-	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY--	JK--
WP177	28	F	MOT				O	NNZZ	CC	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK+-

	IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP177	03	M	SIB	PRO	G3		A1	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK++
WP177	05	F	SIB				A1	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP177	03	M	SIB				A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP178	46	M	FAT				A1	NNZZ	SS	D-	II	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP178	46	F	MOT				B	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP178	12	M	SIB	PRO	G3		A1	MNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP178	03	F	SIB	PRO	G3		A1B	NNZZ	SS	D+	EI	A-	C+K-	KP--	LU--	P+		FY+-	JK+-
WP178	16	M	SIB				A1	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY+-	JK--
WP178	14	M	SIB				A1B	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP179		M	FAT				O	NNZZ	CS	D+	EI		C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP179	37	F	MOT				A1	MNZZ	CS	D+	EI		C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP179	01	F	SIB	PRO	G3		O	MNZZ	CC	D+	II		C+K-	KP--	LU--	P+	LE+	FY+-	JK--
WP180	54	M	FAT				O	MMZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP180	48	F	MOT				A1	NNZZ	SS	D+	EI	A-	C+K-	KP--	LU--	P-	LE-	FY+-	JK++
WP180	10	M	SIB	PRO	G3		O	MNZZ	SS	D+	EE	A-	C+K-	KP--	LU--	P-	LE-	FY++	JK+-
WP180	27	M	SIB				O	MNZZ	SS	D-	II	A-	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP180	23	F	SIB				O	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP180	15	F	SIB				O	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK--
WP181	40	M	FAT				A1	MMSZ	SS	D-	II	A+	C+K-	KP--	LU++	P+	LE-	FY--	JK--
WP181	38	F	MOT				O	MMSS	CC	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP181	03	F	SIB	PRO	G3		A2	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK--
WP182	59	M	FAT				B	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY+-	JK+-
WP182	53	F	MOT				B	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP182	10	M	SIB	PRO	G3		B	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY+-	JK+-
WP182	20	M	SIB				B	MMZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+		FY++	JK+-
WP182	15	M	SIB				O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY+-	JK+-
WP182	11	M	SIB				O	NNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP183	36	M	FAT				A1	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP183	32	F	MOT				A2	MNZZ	CC	D+	II	A+	C+K+	KP--	LU--	P+	LE-	FY++	JK++
WP183	10	F	SIB	PRO	G3		A1	MNZZ	CC	D+	II	A+	C+K+	KP--	LU--	P+	LE-	FY--	JK++
WP183	11	F	SIB				A2	NNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP183	09	M	SIB				O	MNZZ	CS	D+	II	A-	C+K+	KP--	LU--	P+	LE-	FY--	JK--
WP183	06	F	SIB				A1	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP184	43	M	FAT				O	MMSZ	CS	D+	II	A-	C+K-	KP--	LU++	P+	LE-	FY--	JK++
WP184	43	F	MOT				A1	NNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK+-
WP184	07	F	SIB	PRO	G3		A1	MNZZ	CS	D+	II	A-	C+K-	KP--	LU++	P+	LE+	FY--	JK+-
WP184	16	F	SIB				O	MNSZ	SS	D-	II	A-	C+K-	KP--	LU++	P-	LE-	FY--	JK++
WP184	15	F	SIB				A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU++	P-	LE-	FY--	JK++
WP185	56	M	FAT				A	MMSZ	CS	D+	II	A-	C+K+	KP--	LU--	P+	LE+	FY++	JK++
WP185	53	F	MOT				O	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP185	13	M	SIB	PRO	G3		O	MNZZ	CC	D+	II	A+	C+K+	KP--	LU--	P-	LE-	FY++	JK--
WP185	26	M	SIB				A1	MNZZ	CC	D+	II	A+	C+K+	KP--	LU--	P-	LE-	FY--	JK+-
WP185	24	M	SIB				A1	MNZZ	CS	D+	II	A+	C+K+	KP--	LU--	P+	LE+	FY+-	JK++
WP186	42	M	FAT				O	MMSZ	CC	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK+-
WP186	30	F	MOT				A1B	NNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P-		FY++	JK--
WP186	10	M	SIB	PRO	G3		A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK++

IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP186	04 M	SIB				B	MNSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+		FY--	JK++
WP186	06 F	SIB				A1	MNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP186	07 M	SIB				A1	MNSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP186	09 M	SIB				B	MNSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+		FY--	JK++
WP187	39 M	FAT				A2	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK--
WP187	36 F	MOT				B	MNZZ	SS	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK--
WP187	01 M	SIB	PRO	G3		A2B	MMSZ	SS	D-	II	A-	C+K-	KP--	LU--	P-		FY--	JK++
WP188	35 M	FAT				A1	MNSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP188	26 F	MOT				A1	MMSZ	CWS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP188	08 F	SIB	PRO	G3		O	MNZZ	SS	D+	EE	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP188	07 F	SIB				A1	MMSS	CWS	D+	II	A+	C+K-	KP--	LU--		LE-	FY++	JK++
WP188	04 M	SIB				A1	MNSZ	CWS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP188	03 M	SIB				A1	MMSS	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP188	01 F	SIB				A1	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP189	26 M	FAT				B	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+		FY--	JK--
WP189	25 F	MOT				A2	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP189	03 F	SIB	PRO	G3		B	MMSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP189	04 M	SIB				O	MMSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP189	01 F	SIB				O	MMSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK--
WP190	41 M	FAT				O	NNZZ	SS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP190	38 F	MOT				O	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK--
WP190	09 M	SIB	PRO	G3		O	NNZZ	SS	D+	EE	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP190	10 M	SIB				O	NNZZ	SS	D+	EE	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP190	17 M	SIB				O	MNSZ	SS	D+	EE	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP190	01 F	SIB				O	MNSZ	SS	D+	EE	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK--
WP191	60 M	FAT				O	MMZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP191	48 F	MOT				O	MMSS	SS	D-	II	A+	C+K-	KP++	LU++	P+	LE-	FY--	JK++
WP191	05 M	SIB	PRO	G3		O	MMSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE+	FY--	JK--
WP192	62 M	FAT				A1B	MMSZ	CWS	D+	EI	C+K-	KP--	KP--	LU--	P-		FY++	JK++
WP192	46 F	MOT				A1	NNZZ	CC	D+	II	C+K-	KP--	KP--	LU--	P+		FY--	JK--
WP192	22 M	SIB	PRO	G3		A1B	MNZZ	CS	D+	EI	C+K-	KP--	KP--	LU--	P+		FY++	JK--
WP192	18 M	SIB				B	MNZZ	CWC	D+	II	C+K-	KP--	KP--	LU--	P+		FY--	JK--
WP192	14 M	SIB				A1B	MNSZ	CWC	D+	II	C+K-	KP--	KP--	LU--	P+		FY--	JK++
WP192	10 M	SIB				A1B	MNZZ	CWC	D+	II	C+K-	KP--	KP--	LU--	P+		FY--	JK++
WP194	62 M	FAT				O	NNZZ	CS	D+	EI	A-	C+K+	KP--	LU--	P+	LE-	FY++	JK++
WP194	64 F	MOT				O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP194	24 F	SIB	PRO	G3		O	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK--
WP194	35 F	SIB				O	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP195	51 M	FAT				B	NNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-		FY--	JK--
WP195	49 F	MOT				A1	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP195	06 F	SIB	PRO	G3		A1	MNZZ	SS	D+	EE	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP195	27 M	SIB				O	NNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP196	57 M	FAT				O	MNZZ	SS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP196	56 F	MOT				O	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP196	08 F	SIB	PRO	G3		O	NNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP196	23 F	SIB				O	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--

	IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP197	39	M	FAT				A1	MNZZ	CC	D+	II	A+	C+K-	KP-+	LU++	P+	LE+	FY-+	JK-+
WP197	30	F	MOT				B	MMZZ	CC	D+	II	A+	C+K+	KP-+	LU-+	P+		FY++	JK-+
WP197	01	M	SIB	PRO	G3		O	MNZZ	CC	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK++
WP197	13	F	SIB				O	MNZZ	CC	D+	II	A+	C+K-	KP-+	LU++	P+	LE-	FY-+	JK++
WP197	12	F	SIB				O	MNZZ	CC	D+	II	A+	C+K+	KP-+	LU++	P+	LE-	FY++	JK++
WP197	10	M	SIB				A1	MMZZ	CC	D+	II	A+	C+K-	KP-+	LU++	P+	LE-	FY++	JK++
WP197	08	M	SIB				O	MNZZ	CC	D+	II	A+	C+K-	KP-+	LU++	P+	LE-	FY-+	JK++
WP197	07	F	SIB				A1B	MMZZ	CC	D+	II	A+	C+K+	KP-+	LU-+	P+		FY-+	JK++
WP197	04	F	SIB				O	MNZZ	CC	D+	II	A+	C+K-	KP-+	LU++	P+	LE+	FY++	JK++
WP198	43	M	FAT				O	MMZZ	CC	D+	II	A-	C+K+	KP-+	LU-+	P+	LE-	FY++	JK++
WP198	40	F	MOT				O	MNSZ	SS	D+	EI	A-	C+K-	KP-+	LU-+	P+	LE-	FY++	JK-+
WP198	01	F	SIB	PRO	G3		O	MMSZ	CS	D+	II	A-	C+K-	KP-+	LU-+	P+	LE-	FY++	JK++
WP198	17	M	SIB				O	MMSZ	CS	D+	EI	A-	C+K+	KP-+	LU-+	P+	LE-	FY++	JK++
WP198	15	F	SIB				O	MNZZ	CS	D+	EI	A-	C+K-	KP-+	LU-+	P+	LE-	FY++	JK-+
WP198	13	F	SIB				O	MNZZ	CS	D+	II	A-	C+K+	KP-+	LU-+	P+	LE-	FY++	JK-+
WP198	05	M	SIB				O	MMSZ	CS	D+	EI	A-	C+K+	KP-+	LU-+	P+	LE-	FY+-	JK++
WP199	33	M	FAT				O	MMSZ	SS	D-	II	A-	C+K-	KP-+	LU-+	P-		FY++	JK-+
WP199	34	F	MOT				A1	MNZZ	SS	D+	EI	A+	C+K-	KP-+	LU-+	P+		FY-+	JK-+
WP199	03	M	SIB	PRO	G3		A1	MMZZ	SS	D-	II	A+	C+K-	KP-+	LU-+	P+		FY-+	JK++
WP199	03	M	SIB				A1	MNZZ	SS	D+	EI	A+	C+K-	KP-+	LU-+	P+		FY-+	JK++
WP199	01	M	SIB				A1	MNSZ	SS	D-	II	A+	C+K-	KP-+	LU-+	P+		FY-+	JK++
WP200	60	M	FAT				A1	MNZZ	CS	D+	EI	A-	C+K-	KP-+	LU-+	P-		FY++	JK++
WP200	55	F	MOT				A1	MNSZ	CS	D+	EI	A+	C+K-	KP-+	LU-+	P+		FY++	JK-+
WP200	15	M	SIB	PRO	G3		A2	MMSZ	CS	D+	EI	A-	C+K-	KP-+	LU-+	P+		FY+-	JK-+
WP200	19	F	SIB				A1	MMSZ	CC	D+	II	A+	C+K-	KP-+	LU-+	P+		FY-+	JK-+
WP200	17	M	SIB				A1	MNZZ	SS	D+	EE	A+	C+K-	KP-+	LU-+	P+		FY++	JK-+
WP201	38	M	FAT				O	MNSS	SS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY-+	JK++
WP201	37	F	MOT				O	MMSS	SS	D+	EI	A+	C+K+	KP-+	LU-+	P+	LE-	FY-+	JK-+
WP201	06	F	SIB	PRO	G3		O	MMSS	SS	D+	II	A+	C+K+	KP-+	LU-+	P+	LE-	FY-+	JK++
WP201	15	M	SIB				O	MNSS	SS	D-	II	A+	C+K+	KP-+	LU-+	P+	LE+	FY-+	JK-+
WP201	12	M	SIB				O	MMSS	SS	D+	II	A+	C+K+	KP-+	LU-+	P+	LE-	FY-+	JK-+
WP201	04	F	SIB				O	MNSS	SS	D-	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY-+	JK-+
WP201	16	F	SIB				O	MNSS	SS	D+	EI	A+	C+K+	KP-+	LU-+	P-	LE-	FY-+	JK++
WP201	10	F	SIB				O	MMSS	SS	D+	II	A+	C+K-	KP-+	LU-+	P-	LE-	FY-+	JK++
WP202	36	M	FAT				O	MMSZ	SS	D+	EI	A-	C+K-	KP-+	LU-+	P+		FY+-	JK-+
WP202	34	F	MOT				O	MMSZ	SS	D+	EI	A+	C+K-	KP-+	LU-+	P+		FY-+	JK-+
WP202	10	M	SIB	PRO	G3		O	MMSZ	SS	D-	II	A+	C+K-	KP-+	LU-+	P-		FY++	JK++
WP202	09	F	SIB				O	MMZZ	SS	D+	EI	A+	C+K-	KP-+	LU-+	P+		FY++	JK++
WP202	03	F	SIB				O	MMSS	SS	D+	EI	A-	C+K-	KP-+	LU-+	P-		FY++	JK++
WP203	32	M	FAT				O	MNZZ	CS	D+	II	A-	C+K-	KP-+	LU-+	P-	LE-	FY-+	JK-+
WP203	26	F	MOT				O	MNSZ	CS	D+	II	A-	C+K-	KP-+	LU-+	P+	LE-	FY-+	JK++
WP203	07	M	SIB	PRO	G3		O	MNZZ	SS	D-	II	A-	C+K-	KP-+	LU-+	P-	LE+	FY-+	JK-+
WP203	04	F	SIB				O	NNZZ	CC	D+	II	A-	C+K-	KP-+	LU-+	P-	LE-	FY-+	JK++
WP204	36	M	FAT				A1	MMSZ	SS	D-	II	A+	C+K-	KP-+	LU-+	P+	LE+	FY+-	JK-+
WP204	33	F	MOT				B	NNZZ	SS	D+	EI	A-	C+K+	KP-+	LU-+	P+		FY++	JK++
WP204	01	M	SIB	PRO	G3		B	MNSZ	SS	D+	EI	A-	C+K+	KP-+	LU-+	P+		FY++	JK++
WP204	10	M	SIB				A1	MNZZ	SS	D-	II	A-	C+K+	KP-+	LU-+	P+	LE+	FY+-	JK++

IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP204	06	F	SIB			A1B	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+		FY++	JK--
WP205	64	M	FAT			O	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP205	62	F	MOT			O	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP205	21	F	SIB	PRO	G3	O	MNSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP205	23	M	SIB			O	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP205	19	F	SIB			O	MMSS	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP206	45	M	FAT			O	MMSZ	CC	D+	II	A-	C+K-	KP--	LU--	P-	LE--	FY--	JK++
WP206	44	F	MOT			O	MNSZ	SS	D+	EI	A+	C+K-	KP--	LU++	P+	LE-	FY--	JK--
WP206	05	M	SIB	PRO	G3	O	MMSS	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP206	18	F	SIB			O	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP206	17	M	SIB			O	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE--	FY--	JK++
WP206	15	F	SIB			O	MMSS	CS	D+	II	A+	C+K-	KP--	LU++	P+	LE--	FY--	JK++
WP206	12	M	SIB			O	MMSZ	CS	D+	II	A+	C+K-	KP--	LU++	P+	LE--	FY--	JK++
WP206	11	F	SIB			O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU++	P+	LE--	FY--	JK--
WP206	07	M	SIB			O	MMSS	CS	D+	EI	A-	C+K-	KP--	LU++	P+	LE--	FY--	JK--
WP206	06	F	SIB			O	MNSZ	CS	D+	II	A+	C+K-	KP--	LU++	P+	LE--	FY--	JK--
WP206	02	M	SIB			O	MMSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE--	FY--	JK++
WP206	01	F	SIB			O	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK--
WP207	60	M	FAT			O	MMZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK--
WP207	56	F	MOT			O	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP207	18	M	SIB	PRO	G3	O	MMZZ	SS	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK--
WP207	31	M	SIB			O	MMZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+		FY++	JK--
WP207	29	M	SIB			O	MMZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+		FY--	JK++
WP208	38	M	FAT			A1	NNSZ	SS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP208	38	F	MOT			A1	MNSZ	CS	D-	II	U+A+	C+K-	KP--	LU--	P-	LE-	FY--	JK--
WP208	06	M	SIB	PRO		O	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P-	LE+	FY--	JK--
WP208	12	M	SIB			A1	MNSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P-		FY++	JK--
WP208	10	F	SIB			A1	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK--
WP208	07	M	SIB			A1	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK--
WP209	39	M	FAT			B	MMZZ	CS	D+	II	A-	C+K-	KP--	LU--	P-		FY++	JK--
WP209	36	F	MOT			A2	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK--
WP209	02	F	SIB	PRO	G3	A2	MMSZ	SS	D-	II	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK--
WP209	11	M	SIB			O	MMSZ	SS	D-	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK--
WP209	07	F	SIB			A2	MNSZ	SS	D-	II	A-	C+K-	KP--	LU--	P-	LE-	FY--	JK--
WP210	59	M	FAT			A2	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP210	51	F	MOT			A2	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP210	07	F	SIB	PRO	G3	A2	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP210	11	F	SIB			A2	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP211	32	M	FAT			O	NNSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP211	32	F	MOT			O	MNZZ	SS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP211	03	F	SIB	PRO	G3	O	NNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP211	09	F	SIB			O	MMSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP211	07	F	SIB			O	NNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP211	01	F	SIB			O	NNSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP211	06	F	SIB			O	MNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK--
WP212	32	M	FAT			A1	MNSZ	SS	D+	EI		C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP212	28	F	MOT			B	MMSZ	SS	D-	II		C+K-	KP--	LU--	P+		FY++	JK--

IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP212 01	F	SIB	PRO	G3		O	MNZZ	SS	D+	EI		C+K-	KP--	LU--	P+	LE+	FY--	JK--
WP213	41	M	FAT			O	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP213	34	F	MOT			A2B	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK--
WP213	14	F	SIB	PRO	G3	A2	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK--
WP213	11	M	SIB			B	MMZZ	SS	D+	EE	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP214	44	M	FAT			O	MMSZ	CS	D+	EI		C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP214	39	F	MOT			O	MMSZ	CC	D+	II		C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP214	02	F	SIB	PRO	G3	O	MMSZ	CC	D+	EI		C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP215	59	M	FAT			A1	MNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP215	58	F	MOT			B	MNSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP215	19	F	SIB	PRO	G3	A1	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP215	36	M	SIB			A1	MNSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP215	34	M	SIB			A1	MNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP215	30	F	SIB			A1	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP216	33	M	FAT			O	MNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP216	32	F	MOT			O	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP216	03	M	SIB	PRO	G3	O	MNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP216	05	M	SIB			O	NNZZ	SS	D-	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP217	35	M	FAT			A2	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP217	29	F	MOT			O	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK--
WP217	02	F	SIB	PRO	G3	O	NNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP217	04	M	SIB			A2	NNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP217	06	F	SIB			O	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP217	01	F	SIB			O	MMSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP217	01	F	SIB			A2	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP218	62	M	FAT			A2	MMSS	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK--
WP218	54	F	MOT			A1	NNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK--
WP218	13	F	SIB	PRO	G3	A1	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK--
WP218	18	M	SIB			A1	MNSZ	SS	D+	EE	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK--
WP218	17	M	SIB			A1	MNSZ	SS	D+	EE	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK--
WP219	31	M	FAT			A1	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK--
WP219	30	F	MOT			A2	MMZZ	CS	D+	II	A+	C+K-	KP--	LU++	P+	LE-	FY--	JK++
WP219	02	M	SIB	PRO	G3	A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU++	P+	LE+	FY--	JK--
WP220	39	M	FAT			O	NNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP220	26	F	MOT			O	MNSZ	CS	D-	II	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP220	01	M	SIB	PRO	G3	O	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP220	07	F	SIB			O	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP220	06	F	SIB			O	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP220	05	M	SIB			O	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP220	03	M	SIB			O	MNSZ	CS	D-	II	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP220	01	M	SIB			O	MNSZ	CS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP221	49	M	FAT			O	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK++
WP221	40	F	MOT			A1	NNZZ	SS	D-	II	A-	C+K-	KP--	LU--	P+	LE+	FY--	JK--
WP221	11	F	SIB	PRO	G3	O	NNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP221	10	F	SIB			A1	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK--
WP221	08	M	SIB			O	NNZZ	SS	D-	II	A-	C+K-	KP--	LU--	P+	LE+	FY++	JK++

	IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP221	07	M	SIB				O	NNZZ	SS	D-	II	A-	C+K-	KP-+	LU-+	P+	LE+	FY++	JK+-
WP221	06	M	SIB				O	MNSZ	SS	D-	II	A-	C+K-	KP-+	LU-+	P+	LE+	FY++	JK+-
WP221	04	F	SIB				A1	NNZZ	SS	D-	II	A+	C+K-	KP-+	LU-+	P+	LE+	FY++	JK+-
WP221	02	M	SIB				A1	NNZZ	SS	D-	II	A-	C+K-	KP-+	LU-+	P+	LE+	FY++	JK+-
WP221	01	M	SIB				O	NNZZ	SS	D-	II	A-	C+K-	KP-+	LU-+	P+	LE+	FY++	JK+-
WP222	56	M	FAT				A1	MMZZ	SS	D+	EI	A+	C+K-	KP++	LU-+	P+	LE-	FY+-	JK+-
WP222	48	F	MOT				A1	MNSZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK+-
WP222	09	M	SIB	PRO	G3		A1	MNZZ	SS	D+	EI	A+	C+K-	KP++	LU-+	P+	LE+	FY+-	JK+-
WP222	10	M	SIB				A1	MNZZ	SS	D-	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK+-
WP222	08	M	SIB				A1	MNZZ	SS	D-	II	A+	C+K-	KP++	LU-+	P+	LE-	FY++	JK+-
WP222	05	M	SIB				A1	MMSZ	SS	D+	EI	A+	C+K-	KP-+	LU-+	P+	LE+	FY++	JK+-
WP223	39	M	FAT				B	MMSZ	CC	D+	II		C+K+	KP-+	LU-+	P+	LE+	FY++	JK -
WP223	47	F	MOT				A1	NNZZ	CC	D+	II		C+K-	KP-+	LU-+	P+	LE-	FY++	JK--
WP223	08	M	SIB	PRO	G3		B	MNZZ	CC	D+	II		C+K+	KP-+	LU-+	P+	LE-	FY++	JK +
WP223	09	F	SIB				B	MNSZ	CC	D+	II		C+K+	KP-+	LU-+	P+	LE+	FY+-	JK +
WP223	10	M	SIB				A1	MNSZ	CC	D+	II		C+K-	KP-+	LU-+	P+	LE-	FY+-	JK++
WP224	39	M	FAT				O	MNZZ	CS	D+	EI	A+	C+K-	KP-+	LU-+	P+	LE-	FY+-	JK+-
WP224	41	F	MOT				A1	MMZZ	CC	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK+-
WP224	06	M	SIB	PRO	G3		O	MNZZ	CC	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY+-	JK+-
WP225	50	M	FAT				O	MMSS	CS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK++
WP225	48	F	MOT				O	MNZZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK--
WP225	06	F	SIB	PRO	G3		O	MNSZ	CC	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK++
WP225	24	F	SIB				O	MNSZ	SS	D-	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK++
WP225	19	M	SIB				O	MMSZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK++
WP225	16	F	SIB				O	MMSZ	CC	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK--
WP225	14	F	SIB				O	MNSZ	SS	D-	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK--
WP225	10	M	SIB				O	MNSZ	SS	D-	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK++
WP225	07	F	SIB				O	MNSZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK--
WP225	04	M	SIB				O	MMSZ	CC	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY+-	JK--
WP226	45	M	FAT				O	MMZZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK+-
WP226	45	F	MOT				O	MMSZ	CS	D+	EI	A+	C+K-	KP-+	LU++	P+	LE-	FY++	JK++
WP226	15	M	SIB	PRO	G3		O	MMZZ	CS	D+	II	A-	C+K-	KP-+	LU++	P+	LE-	FY++	JK++
WP226	16	F	SIB				O	MMZZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK+-
WP226	09	F	SIB				O	MMZZ	CC	D+	II	A+	C+K-	KP-+	LU++	P+	LE-	FY+-	JK+-
WP227	49	M	FAT				A1	MNZZ	SS	D+	EI	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK--
WP227	36	F	MOT				O	MNSZ	CC	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK++
WP227	05	F	SIB	PRO	G3		A1	MMSZ	CS	D+	EI	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK++
WP227	07	M	SIB				A	MNSZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK--
WP227	05	M	SIB				A1	NNZZ	CS	D+	EI	A+	C+K-	KP-+	LU-+	P+	LE-	FY+-	JK++
WP227	06	M	SIB				A1	MNSZ	CS	D+	EI	A+	C+K-	KP-+	LU-+	P+	LE-	FY+-	JK--
WP227	03	M	SIB				O	NNZZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY++	JK++
WP227	02	M	SIB				A1	MMSZ	CS	D+	EI	A+	C+K-	KP-+	LU-+	P+	LE+	FY++	JK++
WP228	41	M	FAT				A1	NNSZ	SS	D-	II	A+	C+K-	KP-+	LU-+	P-	LE-	FY++	JK+-
WP228	45	F	MOT				B	MNSS	SS	D-	II	A+	C+K-	KP-+	LU-+	P+		FY+-	JK+-
WP228	05	M	SIB	PRO	G3		B	MNSS	SS	D-	II	A-	C+K-	KP-+	LU-+	P+		FY+-	JK+-
WP229	56	M	FAT				O	NNZZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY+-	JK--
WP229	46	F	MOT				A1	MMSS	CS	D+	II	A+	C+K-	KP-+	LU-+	P-	LE-	FY+-	JK++

	IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP229	09	M	SIB	PRO	G3		A1	MNSZ	CC	D+	II	A-	C+K-	KP-+	LU-+	P+	LE-	FY-+	JK++
WP229	16	F	SIB				A1	MNSZ	CC	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY-+	JK++
WP229	15	F	SIB				A1	MNSZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P-	LE-	FY-+	JK++
WP229	14	F	SIB				A1	MNSZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P-	LE-	FY-+	JK++
WP229	13	F	SIB				A1	MNSZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY-+	JK-+
WP229	04	M	SIB				A1	MNSZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY-+	JK++
WP231	64	M	FAT				O	MNSZ	SS	D+	EI	A-	C+K-	KP-+	LU-+	P+	LE-	FY-+	JK-+
WP231	59	F	MOT				O	MNSZ	SS	D-	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY-+	JK++
WP231	18	M	SIB	PRO	G3		O	MNSZ	SS	D+	EI	A+	C+K-	KP-+	LU-+	P+	LE-	FY-+	JK-+
WP231	25	F	SIB				O	MNSZ	SS	D+	EI	A+	C+K-	KP-+	LU-+	P+	LE-	FY-+	JK++
WP231	23	F	SIB				O	MNSZ	SS	D-	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY-+	JK++
WP232	32	M	FAT				O	MNSS	CS	D+	II	A+	C+K-	KP-+	LU-+	P-	LE-	FY++	JK-+
WP232	38	F	MOT				O	MMSS	CS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY-+	JK-+
WP232	02	F	SIB	PRO	G3		O	MMSS	SS	D-	II		C+K-	KP-+	LU-+	P+	LE-	FY++	JK++
WP232	08	F	SIB				O	MNSS	SS	D-	II	A+	C+K-	KP-+	LU-+	P-	LE-	FY-+	JK++
WP232	06	F	SIB				O	MNSS	CC	D+	II	A+	C+K-	KP-+	LU-+	P-	LE-	FY-+	JK++
WP232	05	M	SIB				O	MMSS	CS	D+	II	A+	C+K-	KP-+	LU-+	P-	LE-	FY++	JK++
WP232	04	F	SIB				O	MNSS	SS	D-	II	A+	C+K-	KP-+	LU-+	P-	LE+	FY++	JK++
WP232	01	F	SIB				O	MMSS	SS	D-	II		C+K-	KP-+	LU-+	P+	LE-	FY++	JK++
WP233	37	M	FAT				B	MMZZ	SS	D+	EI	A+	C+K-	KP-+	LU++	P+		FY++	JK++
WP233	37	F	MOT				O	MMSZ	CS	D+	II	A+	C+K-	KP-+	LU++	P+	LE-	FY++	JK-+
WP233	10	M	SIB	PRO	G3		O	MMZZ	SS	D+	EI	A-	C+K-	KP-+	LU++	P+	LE-	FY-+	JK-+
WP233	15/	M	SIB				B	MMSZ	SS	D+	EI	A+	C+K-	KP-+	LU-+	P+		FY++	JK-+
WP233	14	M	SIB				B	MMSZ	CS	D+	II	A+	C+K-	KP-+	LU++	P+		FY-+	JK-+
WP233	12	M	SIB				B	MMZZ	SS	D-	II	A-	C+K-	KP-+	LU-+	P+		FY++	JK++
WP233	11	F	SIB				O	MMSZ	SS	D-	II	A+	C+K-	KP-+	LU++	P+	LE-	FY++	JK++
WP233	09	F	SIB				O	MMZZ	CS	D+	EI	A+	C+K-	KP-+	LU++	P+	LE-	FY-+	JK++
WP233	08	M	SIB				O	MMSZ	SS	D-	II	A+	C+K-	KP-+	LU++	P+	LE-	FY++	JK++
WP234	64	M	FAT				B	MNZZ	SS	D+	EI	A+	C+K-	KP-+	LU++	P-		FY-+	JK-+
WP234	60	F	MOT				A2	MMSS	CS	D+	II	A+	C+K-	KP-+	LU-+	P+		FY++	JK-+
WP234	21	F	SIB	PRO	G3		O	MNSZ	CS	D+	II	A+	C+K-	KP-+	LU++	P+	LE-	FY++	JK-+
WP234	38	M	SIB				A2B	MMSZ	SS	D+	EI	A-	C+K-	KP-+	LU-+	P+		FY++	JK-+
WP234	37	F	SIB				O	MNSZ	SS	D+	EI	A+	C+K-	KP-+	LU++	P+	LE+	FY++	JK-+
WP234	34	F	SIB				A2B	MNSZ	CS	D+	EI	A+	C+K-	KP-+	LU++	P+		FY-+	JK-+
WP234	32	F	SIB				O	MMSZ	CS	D+	EI	A+	C+K-	KP-+	LU++	P+	LE+	FY++	JK-+
WP234	30	F	SIB				B	MMSZ	SS	D+	EI	A+	C+K-	KP-+	LU-+	P+		FY-+	JK-+
WP234	28	M	SIB				A2B	MNSZ	SS	D+	II	A-	C+K-	KP-+	LU-+	P+		FY-+	JK-+
WP234	25	F	SIB				O	MMSZ	SS	D+	EI	A+	C+K-	KP-+	LU-+	P+	LE-	FY-+	JK-+
WP234	24	F	SIB				B	MNSZ	SS	D+	EI	A+	C+K-	KP-+	LU-+	P+		FY++	JK-+
WP234	22	M	SIB				A2B	MMSZ	SS	D+	EI	A+	C+K-	KP-+	LU++	P+		FY++	JK-+
WP235	40	M	FAT				A1	MNZZ	SS	D-	II		C+K-	KP-+		P+	LE+	FY-+	JK++
WP235	35	F	MOT				O	MNZZ	SS	D+	EI		C+K-	KP-+		P+	LE-	FY-+	JK-+
WP235	11	F	SIB	PRO	G3		O	MNZZ	SS	D+	EI		C+K-	KP-+		P+	LE+	FY-+	JK++
WP235	04	M	SIB	PRO	G3		A1	MNZZ	SS	D+	EI		C+K-	KP-+	LU-+	P+	LE+	FY-+	JK-+
WP235	13	M	SIB				A1	MNZZ	SS	D-	II		C+K-	KP-+		P+	LE-	FY-+	JK-+
WP235	09	M	SIB				O	MMZZ	SS	D+	EI		C+K-	KP-+		P+	LE+	FY-+	JK++
WP236	51	M	FAT				O	MNZZ	SS	D+	EI	A+	C+K-	KP-+	LU-+	P+	LE+	FY++	JK-+
WP236	52	F	MOT				O	MNZZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE-	FY-+	JK-+
WP236	22	F	SIB	PRO	G3		O	MMZZ	CS	D+	II	A+	C+K-	KP-+	LU-+	P+	LE+	FY++	JK-+

	IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP236	23	M	SIB				O	MNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE+	FY++	JK+-
WP236	19	F	SIB				O	MNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY+-	JK+-
WP237	22	M	FAT				O	MNSZ	CS	D+	II	A-	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP237	20	F	MOT				O	MNSZ	CWS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP237	01	F	SIB	PRO	G3		O	NNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP238	39	M	FAT				O	MNSS	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY+-	JK++
WP238	33	F	MOT				O	MNZZ	CC	D+	II	A+	C+K-	KP++	LU--	P+	LE-	FY++	JK--
WP238	14	F	SIB	PRO	G3		O	MMSZ	CC	D+	II	A+	C+K-	KP++	LU--	P+	LE+	FY+-	JK++
WP238	13	M	SIB				O	MMSZ	CS	D+	II	A+	C+K-	KP++	LU--	P+	LE-	FY++	JK--
WP238	08	F	SIB				O	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP238	07	F	SIB				O	MNSZ	CS	D+	II	A+	C+K-	KP++	LU--	P+	LE-	FY+-	JK++
WP238	07	M	SIB				O	MMSZ	CS	D+	II	A-	C+K-	KP++	LU--	P+	LE-	FY+-	JK++
WP239	32	M	FAT				B	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK+-
WP239	26	F	MOT				O	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK+-
WP239	06	F	SIB	PRO	G3		O	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK+-
WP239	05	F	SIB				O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK+-
WP239	04	F	SIB				O	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK+-
WP239	03	M	SIB				O	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK+-
WP239	01	F	SIB				O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK+-
WP240	62	M	FAT				A2	MMSS	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP240	49	F	MOT				O	MNSZ	SS	D-	II	A+	C+K+	KP--	LU--	P+	LE-	FY++	JK+-
WP240	07	F	SIB	PRO	G3		A2	MNSZ	CS	D-	II	U+A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP240	25	M	SIB				A2	MMSS	SS	D+	EI	A+	C+K+	KP--	LU--	P+	LE-	FY--	JK+-
WP240	24	M	SIB				A2	MNSZ	SS	D+	EI	A+	C+K+	KP--	LU--	P+	LE-	FY--	JK+-
WP240	14	F	SIB				A2	MNSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK+-
WP240	05	M	SIB				O	MMSS	SS	D+	EI	A+	C+K+	KP--	LU--	P+	LE+	FY++	JK+-
WP241	40	M	FAT				A1	MMSZ	SS	D-	II	A-	C+K-	KP--	LU--	P+	LE-	FY+-	JK+-
WP241	38	F	MOT				A1	NNZZ	SS	D+	EE	A+	C+K-	KP--	LU--	P-	LE+	FY++	JK++
WP241	04	F	SIB	PRO	G3		A1	MNSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY+-	JK+-
WP241	04	F	SIB	PRO	G3		A1	MNSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY+-	JK+-
WP241	15	F	SIB				A1	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY+-	JK+-
WP241	12	F	SIB				A1	MNSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK+-
WP241	08	F	SIB				A1	MNSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY+-	JK+-
WP242	38	M	FAT				O	MNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP242	39	F	MOT				A1	MNSS	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP242	01	F	SIB	PRO	G3		A1	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP242	16	F	SIB				O	MNSZ	CS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK+-
WP242	12	F	SIB				O	MNSZ	CC	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK+-
WP242	10	F	SIB				A1	MNSZ	CC	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK+-
WP242	07	F	SIB				A1	MMSZ	CS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK+-
WP242	05	M	SIB				O	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP243	43	M	FAT				A1	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY+-	JK+-
WP243	35	F	MOT				A1B	MNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P-		FY++	JK++
WP243	02	F	SIB	PRO	G3		A1	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY+-	JK+-
WP243	11	F	SIB				A1	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P-	LE+	FY+-	JK++
WP243	09	M	SIB				A1B	MNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+		FY+-	JK+-
WP243	08	F	SIB				A1B	NNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP243	06	M	SIB				B	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK+-

IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP244	45	M	FAT			A1B	MMSS	CC	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP244	44	F	MOT			O	MMSZ	SS	D-	II	A+	C+K-	KP--	LU++	P+	LE-	FY++	JK--
WP244	04	M	SIB	PRO	G3	B	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK--
WP244	15	F	SIB			B	MMSZ	CS	D+	II	A+	C+K-	KP--	LU++	P+		FY--	JK++
WP245	33	M	FAT			A1	MMZZ	CWS	D+	EI		C+K-	KP--	LU--	P+	LE+	FY++	JK++
WP245	32	F	MOT			A2	MNSZ	CS	D+	II		C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP245	01	M	SIB	PRO	G3	A2	MMZZ	CWC	D+	II		C+K-	KP--	LU--	P-	LE-	FY--	JK--
WP245	09	M	SIB			A1	MMZZ	CWC	D+	II		C+K-	KP--	LU--	P-	LE+	FY--	JK++
WP245	07	F	SIB			O	MNSZ	SS	D+	EI		C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP246	36	M	FAT			B	MNSS	SS	D-	II	A+	C+K+	KP--	LU--	P+		FY++	JK--
WP246	36	F	MOT			O	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK--
WP246	01	M	SIB	PRO	G3	O	MNSZ	CS	D+	II	A+	C+K+	KP--	LU--	P+	LE-	FY--	JK--
WP246	10	M	SIB			O	MNSZ	CS	D+	II	A+	C+K+	KP--	LU--	P+	LE-	FY--	JK--
WP246	05	M	SIB			B	MNSZ	CS	D+	II	A+	C+K+	KP--	LU--	P-		FY--	JK--
WP246	03	M	SIB			B	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P-		FY--	JK--
WP246	01	M	SIB			O	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK--
WP247	55	M	FAT			B	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P-		FY++	JK++
WP247	48	F	MOT			B	MMZZ	CWC	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP247	10	M	SIB	PRO	G3	B	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P-		FY--	JK++
WP247	15	F	SIB			B	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK--
WP248	69	M	FAT			O	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP248	63	F	MOT			O	MNZZ	CS	D-	II	U+A-	C+K-	KP--	LU++	P-	LE-	FY--	JK--
WP248	24	F	SIB	PRO	G3	O	MNSZ	CC	D+	II		C+K-	KP--	LU--	P+	LE-	FY+	JK+
WP248	43	M	SIB			O	MNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP248	39	F	SIB			O	MNZZ	CS	D-	II	U+A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP248	38	M	SIB			O	MNSZ	SS	D-	II	A-	C+K-	KP--	LU++	P+	LE-	FY++	JK--
WP248	36	M	SIB			O	MNZZ	CS	D+	II	A-	C+K-	KP--	LU++	P-	LE-	FY++	JK++
WP248	35	F	SIB			O	MNZZ	CC	D+	II		C+K-	KP--	LU++	P-	LE-	FY++	JK--
WP248	33	F	SIB			O	MMSZ	CS	D+	II	A+	C+K-	KP--	LU++	P+	LE-	FY++	JK++
WP248	31	M	SIB			O	MNZZ	CC	D+	II		C+K-	KP--	LU-	P-		FY+	JK+
WP248	29	F	SIB			O	MNZZ	SS	D-	II	A+	C+K-	KP--	LU++	P-	LE-	FY++	JK--
WP248	20	M	SIB			O	MNZZ	CS	D+	II	A-	C+K-	KP--	LU++	P-	LE-	FY++	JK--
WP249	51	M	FAT			O	MMSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP249	41	F	MOT			O	MNZZ	CC	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP249	02	M	SIB	PRO	G3	O	MNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE+	FY++	JK--
WP249	05	M	SIB			O	MNSZ	CS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP249	04	M	SIB			O	MNZZ	CS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP249	02	M	SIB			O	MNZZ	CS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP250	49	M	FAT			A1	MMSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP250	52	F	MOT			O	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP250	06	M	SIB	PRO	G3	A1	MNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP250	23	F	SIB			O	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP250	22	F	SIB			A1	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP250	21	F	SIB			A1	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP250	18	F	SIB			A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP250	16	M	SIB			O	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP250	13	F	SIB			A1	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP250	11	F	SIB			O	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++

IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP250	08	F	SIB			O	MNSZ	CS	D+	II	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP251	26	M	FAT			A1	MMSZ	SS	D-	II		C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP251	01	M	SIB	PRO	G3	A1	MNSZ	SS	D+	EI		C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP252	49	M	FAT			O	NNZZ	SS	D+	EI	A+	C+K-	KP-	LU++	P+	LE+	FY++	JK++
WP252	47	F	MOT			A1B	MMSZ	CS	D+	II	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP252	08	F	SIB	PRO	G3	A1	MNSZ	CS	D+	EI	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP252	14	F	SIB			B	MNSZ	SS	D+	EI	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP253	29	M	FAT			A1	NNZZ	CS	D+	II	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP253	26	F	MOT			A1	MMSZ	CS	D+	II	A-	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP253	07	F	SIB	PRO	G3	A1	MNSZ	CS	D+	II	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP253	01	M	SIB			A1	MNSZ	CS	D+	II	A-	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP254	36	M	FAT			A1	MMZZ	SS	D-	II	A-	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP254	34	F	MOT			A1	MMZZ	CS	D+	II	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP254	03	F	SIB	PRO	G3	A1	MMZZ	SS	D-	II	A+	C+K-	KP-	LU++	P+	LE+	FY++	JK++
WP254	03	F	SIB			A1	MMZZ	SS	D-	II	A-	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP254	02	F	SIB			A2	MMZZ	CS	D+	II	A-	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP255		M																
WP255		M	FAT			A1	MMZZ	SS	D-	II	A-	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP255		F	MOT			O	MMZZ	CS	D+	II	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP255		M	SIB	PRO	G3	A2	MMZZ	CS	D+	II	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP255		M	SIB			A2	MMZZ	CS	D+	II	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP256	24	M	FAT			B	MNSZ	SS	D+	EI	A+	C+K-	KP-	LU++	P+	LE+	FY++	JK++
WP256	24	F	MOT			A1	MMSZ	CS	D+	II	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP256	08	F	SIB	PRO	G3	O	MMSZ	CS	D+	II	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP257	47	M	FAT			O	MNSZ	SS	D+	EI	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP257	44	F	MOT			O	MNSZ	CS	D+	II	A+	C+K-	KP-	LU++	P+	LE+	FY++	JK++
WP257	02	F	SIB	PRO	G3	O	MNSZ	CS	D+	EI	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP257	12	F	SIB			O	MNSZ	SS	D+	EI	A+	C+K-	KP-	LU++	P+	LE+	FY++	JK++
WP258	24	M	FAT			O	MMZZ	SS	D+	II	A-	C+K-	KP-	LU++	P+	LE+	FY++	JK++
WP258	18	F	MOT			O	MNSZ	CS	D+	EI	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP258	02	M	SIB	PRO	G3	O	MNSZ	SS	D+	EI	A-	C+K-	KP-	LU++	P+	LE+	FY++	JK++
WP259	34	M	FAT			A1	MNSZ	SS	D-	II	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP259	30	F	MOT			O	NNZZ	CS	D+	EI	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP259	01	F	SIB	PRO	G3	A2	MNSZ	SS	D+	EI	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP259	02	M	SIB			A1	MNSZ	SS	D+	EI	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP260	45	M	FAT			A1	MNSZ	CS	D+	II	A-	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP260	37	F	MOT			O	MMSZ	CS	D+	II	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP260	10	F	SIB	PRO	G3	O	MNSZ	CS	D+	II	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP260	16	F	SIB			O	MNSZ	CS	D+	II	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP260	14	M	SIB			O	MNSZ	CS	D+	II	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP260	04	F	SIB			A1	MNSZ	CS	D+	II	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP260	01	F	SIB			O	MNSZ	CS	D+	II	A+	C+K-	KP-	LU++	P+	LE-	FY++	JK++
WP261	40	M	FAT			O	MMSZ	CS	D+	II		C+K-	KP-	LU++	P+		FY++	JK++
WP261		F	MOT			AB	MNSZ	CS	D+	II		C+K-	KP-	LU++	P+		FY++	JK++

	IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP261	10	M	SIB	PRO	G3		A	MMSS	CS	D+	II		C+K-	KP++	LU++	P+		FY++	JK++
WP261	07	M	SIB				B	MNZZ	CS	D+	II		C+K-	KP++	LU++	P+		FY++	JK++
WP262	37	M	FAT				O	MMSZ	CS	D+	II	A+	C+K-	KP++	LU-	P+	LE-	FY++	JK++
WP262	35	F	MOT				A1	NNSZ	SS	D-	II	A+	C+K-	KP++	LU-	P+	LE-	FY++	JK++
WP262	11	M	SIB	PRO	G3		A1	MNSZ	CS	D+	II	A+	C+K-	KP++	LU-	P+	LE-	FY++	JK++
WP262	13	F	SIB				A1	MNSZ	SS	D-	II	A+	C+K-	KP++	LU-	P+	LE+	FY++	JK++
WP262	07	M	SIB				A1	MNSS	SS	D-	II	A+	C+K-	KP++	LU-	P+	LE-	FY++	JK++
WP262	04	M	SIB				A1	MNZZ	SS	D-	II	A-	C+K-	KP++	LU-	P+	LE-	FY++	JK++
WP263	46	M	FAT				A1	MNSZ	SS	D-	II	A-	C+K-	KP++	LU++	P-	LE-	FY++	JK++
WP263	42	F	MOT				A1	MMZZ	SS	D+	EI	A+	C+K+	KP++	LU++	P+	LE-	FY++	JK++
WP263	02	F	SIB	PRO	G3		A1	MNSZ	SS	D+	EI	A-	C+K-	KP++	LU++	P+	LE+	FY++	JK++
WP263	20	M	SIB				A2	MNSZ	SS	D+	EI	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP263	19	M	SIB				A1	MMZZ	SS	D-	II	A+	C+K+	KP++	LU++	P+	LE-	FY++	JK++
WP264	31	M	FAT				O	NNSZ	SS	D-	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP264	32	F	MOT				A2	MMSZ	CS	D+	EI	A+	C+K-	KP++	LU++	P+	LE+	FY++	JK++
WP264	06	F	SIB	PRO	G3		O	MNSZ	SS	D+	EI	A+	C+K-	KP++	LU++	P+	LE+	FY++	JK++
WP264	04	F	SIB				A2	MNSZ	SS	D+	EI	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP265	33	M	FAT				O	MMZZ	SS	D-	II	A-	C+K+	KP++	LU++	P+	LE-	FY++	JK++
WP265	29	F	MOT				O	NNZZ	SS	D-	II	A+	C+K-	KP++	LU++	P-	LE-	FY++	JK++
WP265		M	SIB	PRO	G3		O	MNZZ	SS	D-	II	A+	C+K+	KP++	LU++	P+	LE+	FY++	JK++
WP265	05	M	SIB				O	MNZZ	SS	D-	II	A+	C+K+	KP++	LU++	P+	LE-	FY++	JK++
WP265	03	F	SIB				O	MNZZ	SS	D-	II	A+	C+K+	KP++	LU++	P-	LE-	FY++	JK++
WP266	27	M	FAT				O	MNZZ	CS	D+	EI	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP266	27	F	MOT				O	MNSZ	SS	D-	II	A-	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP266	01	F	SIB	PRO	G3		O	MNZZ	SS	D+	EI	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP266	01	M	SIB				O	MNSZ	SS	D+	EI	A-	C+K-	KP++	LU++	P-	LE-	FY++	JK++
WP267	38	M	FAT				A1	NNSZ	SS	D+	EI	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP267	38	F	MOT				O	MNSZ	CS	D+	II	A+	C+K-	KP++	LU++	P-	LE-	FY++	JK++
WP267	06	F	SIB	PRO	G3		A1	MNSS	SS	D-	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP267	04	F	SIB	PRO	G3		O	MNSZ	SS	D+	EI	A+	C+K-	KP++	LU++	P-	LE-	FY++	JK++
WP268	49	M	FAT				O	MNSZ	CS	D+	II	A-	C+K-	KP++	LU++	P-	LE-	FY++	JK++
WP268	52	F	MOT				O	NNZZ	CC	D+	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP268	16	F	SIB	PRO	G3		O	NNZZ	CC	D+	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP268	13	M	SIB				O	NNZZ	CS	D+	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP269	37	M	FAT				O	MMSZ	SS	D-	II	A+	C+K-	KP++	LU++	P-	LE+	FY++	JK++
WP269	37	F	MOT				A1	NNZZ	CS	D+	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP269	09	M	SIB	PRO	G3		A1	MNSZ	SS	D-	II	A+	C+K-	KP++	LU++	P-	LE-	FY++	JK++
WP269	04	F	SIB				O	MNZZ	SS	D-	II	A+	C+K-	KP++	LU++	P+	LE+	FY++	JK++
WP270	42	M	FAT				O	MNZZ	SS	D-	II	A-	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP270	34	F	MOT				A1	MNZZ	CS	D+	EI	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP270	10	M	SIB	PRO	G3		O	MMZZ	SS	D+	EI	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP270	10	F	SIB				A1	MMZZ	SS	D+	EI	A+	C+K-	KP++	LU++	P-	LE-	FY++	JK++
WP271	41	M	FAT				A1	NNZZ	CS	D+	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++
WP271	50	F	MOT				O	MNZZ	SS	D-	II	A+	C+K-	KP++	LU++	P+	LE+	FY++	JK++
WP271	10	M	SIB	PRO	G3		O	NNZZ	CS	D+	II	A+	C+K-	KP++	LU++	P+	LE-	FY++	JK++

IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP272	29	M	FAT			O	MMSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP272	28	F	MOT			O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-		FY++	JK++
WP272	06	M	SIB	PRO	G3	O	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P-		FY++	JK++
WP272	05	F	SIB			O	MMZZ	CS	D-	II	U+A+	C+K-	KP--	LU--	P-		FY++	JK--
WP272	02	F	SIB			O	MMSZ	CS	D-	II	U+A+	C+K-	KP--	LU--	P-		FY++	JK++
WP273	47	M	FAT			A1B	MMSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP273	48	F	MOT			O	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP273	07	M	SIB	PRO	G3	B	MMSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP273	12	M	SIB			B	MMSZ	CS	D-	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP273	10	M	SIB			B	NNZZ	CC	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP273	09	M	SIB			B	MMSZ	CC	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP274		M	FAT			A1	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP274		F	MOT			A1	MMSS	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP274	05	M	SIB	PRO	G3	O	MMSZ	CC	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP274	02	M	SIB			A1	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP275		M	FAT			A1	MNSS	SS	D-	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP275		F	MOT			A1	MMSZ	SS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP275		M	SIB	PRO	G3	A1	MMSZ	SS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP275		M	SIB			A1	MNSS	SS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP275		F	SIB			A1	MMSZ	SS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP275		M	SIB			A1	MNSS	SS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP275		F	SIB			A1	MNSS	SS	D-	II	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP276	40	M	FAT			A1	MMSZ	CS	D+	II	A+	C+K+	KP--	LU--	P+	LE-	FY--	JK++
WP276	32	F	MOT			B	MNZZ	SS	D+	EE	A+	C+K-	KP--	LU--	P-		FY--	JK++
WP276	04	M	SIB	PRO	G3	B	MMSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P-		FY++	JK--
WP276	07	F	SIB			O	MNZZ	SS	D+	EI	A+	C+K+	KP--	LU--	P+	LE-	FY++	JK++
WP276	05	F	SIB			O	MNZZ	CS	D+	EI	A+	C+K+	KP--	LU--	P-	LE-	FY++	JK++
WP276	02	M	SIB			O	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP276	01	F	SIB			O	MMSZ	SS	D+	EI	A+	C+K+	KP--	LU--	P+	LE-	FY++	JK--
WP277		M	FAT			A1	MNZZ	CC	D+	II	A+	C+K-	KP--	LU++	P+	LE-	FY--	JK++
WP277		F	MOT			O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP277	04	F	SIB	PRO	G3	O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP277	16	F	SIB		XO	O	MMZZ	CS	D+	II	A+	C+K-	KP--	LU++	P+	LE-	FY--	JK--
WP277		M	SIB			A1	MNZZ	CC	D+	II	A-	C+K-	KP--	LU--	P+	LE+	FY--	JK--
WP277		F	SIB			O	NNZZ	CS	D+	II	A+	C+K-	KP--	LU++	P+	LE-	FY--	JK++
WP278	72	M	FAT			A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP278	70	F	MOT			O	MMSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP278	32	F	SIB	PRO	G3	A1	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP278	44	M	SIB			A1	NNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP278	42	M	SIB			O	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP278	40	M	SIB			A1	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP278	38	M	SIB			A1	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP278	36	M	SIB			O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP278	34	M	SIB			A1	MMSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP278	28	F	SIB			O	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP279		M	FAT			O	MMSS	CS	D+	II		C+K-	KP--		P-	LE-	FY-	
WP279		F	MOT			A2B	NNZZ	SS	D-	II		C+K-	KP--		P+		FY-	

IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP279		SIB	PRO	G3		B	MNSZ	SS	D-	II		C+K-	KP--		P-	LE-	FY-	
WP279		SIB				B	MNSZ	CS	D+	II		C+K-	KP--		P-	LE-	FY-	
WP280		M	FAT			O	MMSZ	CS	D+	EI		C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP280		F	MOT			A1B	MNZZ	CS	D+	EI		C+K+	KP--	LU--	P+		FY++	JK++
WP280	14	M	SIB	PRO	G3	B	MMSZ	SS	D+	EE		C+K+	KP--	LU--	P+		FY++	JK--
WP280	17	F	SIB			A1	MNZZ	CS	D+	EI		C+K-	KP--	LU--	P+	LE+	FY++	JK--
WP280	06	F	SIB			B	MMSZ	CS	D+	EI		C+K+	KP--	LU--	P+		FY--	JK--
WP280	05	M	SIB			A1	MMSZ	CC	D+	II		C+K+	KP--	LU--	P+	LE+	FY--	JK++
WP281		M	FAT			O	NNZZ	CWS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP281		F	MOT			O	NNZZ	CS	D+	II	A+	C+K+	KP--	LU--	P+	LE+	FY++	JK--
WP281		M	SIB	PRO	G3	O	NNZZ	SS	D-	II	A+	C+K+	KP--	LU--	P+	LE+	FY--	JK--
WP281		M	SIB			O	NNZZ	CWS	D+	II	A+	C+K+	KP--	LU--	P+	LE+	FY--	JK--
WP281		F	SIB			O	NNZZ	SS	D-	II	A+	C+K+	KP--	LU--	P+	LE-	FY--	JK--
WP281		M	SIB			O	NNZZ	CWS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK--
WP282	41	M	FAT			A1	MNZZ	SS	D+	EI		C+K+	KP--		P+	LE-	FY++	JK--
WP282	34	F	MOT			O	MMSS	SS	D-	II		C+K-	KP--		P+	LE-	FY++	JK++
WP282	01	F	SIB	PRO	G3	O	MNSZ	SS	D-	II		C+K+	KP--		P+	LE-	FY--	JK--
WP282	14	M	SIB			O	MMSZ	SS	D-	II		C+K+	KP--		P+	LE-	FY--	JK+
WP282	09	M	SIB			A1	MMSZ	SS	D-	II		C+K+	KP--		P+	LE-	FY++	JK-
WP283	31	M	FAT			A1	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP283	25	F	MOT			A1	NNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE+	FY++	JK++
WP283	02	F	SIB	PRO	G3	A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK--
WP283	04	F	SIB			A1	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP284	40	M	FAT			A1	MMSS	CS	D+	EI	A+	C+K+	KP--	LU++	P+	LE-	FY--	JK++
WP284	39	F	MOT			O	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE+	FY--	JK--
WP284		M	SIB	PRO	G3	O	MMSS	SS	D+	EI	A+	C+K+	KP--	LU++	P+	LE-	FY++	JK++
WP284		M	SIB			A1	MNSZ	CS	D+	II	A+	C+K+	KP--	LU++	P+	LE-	FY++	JK--
WP285	22	M	FAT			O	NNZZ	CC	D+	II	A+	C+K+	KP--	LU--	P-	LE-	FY--	JK--
WP285	23	F	MOT			A1	MMZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP285	01	M	SIB	PRO	G3	A2	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP286	19	M	FAT			A2B	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP286	17	F	MOT			O	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP286	05	F	SIB	PRO	G3	A2	MNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP287	40	M	FAT			O	MNSZ	CC	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP287	38	F	MOT			O	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP287	04	F	SIB	PRO	G3	O	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP287	02	F	SIB	PRO	G3	O	NNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP287	09	F	SIB			O	NNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP287	07	F	SIB			O	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP287	06	F	SIB			O	NNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP288	47	M	FAT			O	MNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P-	LE+	FY++	JK++
WP288	43	F	MOT			A1	NNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP288	01	F	SIB	PRO	G3	O	NNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK++
WP288	14	F	SIB			A1	NNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK--
WP288	11	M	SIB			A1	MNSZ	SS	D-	II	A-	C+K-	KP--	LU--	P-	LE-	FY--	JK++

	IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP289	61	M	FAT				B	MMZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP289	61	F	MOT				O	MNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+		FY++	JK++
WP289	16	F	SIB	PRO	G3		B	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK--
WP289	30	M	SIB				B	MMZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+		FY--	JK++
WP289	28	F	SIB				O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP289	18	F	SIB				O	MMZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP290	46	M	FAT				A1	MNZZ	SS	D+	EE	A+	C+K-	KP--	LU++	P-	LE-	FY++	JK--
WP290	42	F	MOT				A1	MMSZ	CC	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK--
WP290	02	F	SIB	PRO	G3		A1	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE+	FY++	JK--
WP290	23	M	SIB				A1	MMSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK--
WP290	22	F	SIB				O	MMSZ	CS	D+	EI	A+	C+K-	KP--	LU++	P-	LE-	FY++	JK--
WP290	21	F	SIB				O	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU++	P-	LE-	FY++	JK--
WP290	19	M	SIB				A1	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK--
WP290	18	M	SIB				A1	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK--
WP290	17	M	SIB				A1	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK--
WP290	16	F	SIB				A1	MMSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK--
WP290	11	F	SIB				A1	MMZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK--
WP290	08	F	SIB				A1	MMSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK--
WP290	02	F	SIB				O	MMZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK--
WP291	35	M	FAT				A1	MNZZ	SS	D+	EI	A-	C+K-	KP--	LU--	P+	LE+	FY--	JK--
WP291	29	F	MOT				B	MMSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P-	LE+	FY--	JK++
WP291	01	F	SIB	PRO	G3		A1B	MNSZ	SS	D+	EE	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP292	24	M	FAT				A1	MMSS	SS	D+	EI	A+	C+K-	KP--	LU--	P+W		FY--	JK++
WP292	20	F	MOT				O	NNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P-		FY++	JK++
WP292	01	M	SIB	PRO	G3		A1	MNSS	SS	D+	EI	A-	C+K-	KP--	LU--	P-		FY--	JK++
WP292	01	M	SIB				A1	MNSZ	SS	D+	EI	A-	C+K-	KP--	LU--	P-		FY++	JK++
WP293	46	M	FAT				A2	NNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+W	LE+	FY--	JK--
WP293	49	F	MOT				A1	MMZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP293	04	F	SIB	PRO	G3		A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP293	07	F	SIB				A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP293	05	M	SIB				A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP294	45	M	FAT				O	MMSS	SS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK--
WP294	42	F	MOT				O	MMSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE+	FY++	JK++
WP294	12	M	SIB	PRO	G3		O	MMSZ	CS	D+	II	A-	C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP294	21	F	SIB				O	MMSS	SS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP294	18	M	SIB				O	MMSS	SS	D-	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP294	15	M	SIB				O	MMSZ	SS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP294	07	M	SIB				O	MMSZ	SS	D+	EI	A-	C+K-	KP--	LU--	P+	LE+	FY--	JK--
WP295	41	M	FAT				O	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP295	42	F	MOT				A1	NNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+		FY--	JK--
WP295	14	M	SIB	PRO	G3		O	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+		FY--	JK--
WP295	18	F	SIB				O	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+		FY--	JK--
WP295	16	M	SIB				A1	NNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP295	15	M	SIB				A1	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP295	09	M	SIB				O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-		FY++	JK--
WP295	06	M	SIB				A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK--
WP295	03	M	SIB				O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-		FY--	JK--
WP295	02	M	SIB				O	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+		FY++	JK++

	IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP296	20	M	FAT				O	MNSZ	CS	D+	II	A+	C+K-	KP--	LU++	P-		FY--	JK--
WP296	16	F	MOT				A1B	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK--
WP296	02	F	SIB	PRO	G3		B	MNSS	CC	D+	II	A+	C+K-	KP--	LU--	P-		FY++	JK++
WP297	27	M	FAT				O	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK--
WP297	25	F	MOT				O	MMSS	CC	D+	II	A-	C+K+	KP--	LU--	P+		FY++	JK--
WP297	01	M	SIB	PRO	G3		O	MMSZ	CC	D+	II	A-	C+K+	KP--	LU--	P+		FY++	JK++
WP297	02	M	SIB				O	MNSS	CC	D+	II	A-	C+K+	KP--	LU--	P+		FY--	JK++
WP299	54	M	FAT				A1	NNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+		FY++	JK--
WP299	52	F	MOT				A1	MNSS	SS	D+	EI	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP299	11	F	SIB	PRO	G3		A1	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P-		FY++	JK--
WP300	46	M	FAT				A2B	MNSZ	CC	D+	II	A-	C+K-	KP--	LU++	P+		FY++	JK--
WP300	40	F	MOT				A2	MNSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P-		FY++	JK--
WP300	13	M	SIB	PRO	G3		A2	NNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P-		FY--	JK++
WP300	16	F	SIB				A2	NNZZ	CS	D+	EI	A+	C+K-	KP--	LU++	P+		FY--	JK++
WP300	15	F	SIB				A2B	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P-		FY++	JK++
WP300	11	M	SIB				A2	MNSZ	CS	D+	II	A+	C+K-	KP--	LU++	P+		FY--	JK++
WP301	50	M	FAT				O	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP301	54	F	MOT				O	MNSZ	SS	D-	EI	A-	C+K-	KP--	LU--	P+	LE+	FY++	JK--
WP301	15	F	SIB	PRO	G3		O	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP301	26	M	SIB				O	MNSZ	CS	D+	II	A-	C+K-	KP--	LU--	P-	LE-	FY--	JK--
WP301	23	M	SIB				O	MNSZ	CS	D+	II	A-	C+K-	KP--	LU--	P-	LE+	FY--	JK++
WP301	20	F	SIB				O	MNSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP301	17	M	SIB				O	MNSZ	SS	D-	EI	A-	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP302	42	M	FAT				A2	MNZZ	CC	D+	II	A-	C+K-	KP--	LU--	P-		FY--	JK++
WP302	37	F	MOT				O	MMSZ	CS	D+	EI	A+	C+K-	KP--	LU++	P+		FY++	JK++
WP302	02	M	SIB	PRO	G3		O	MMZZ	CC	D+	II	A-	C+K-	KP--	LU--	P+		FY--	JK--
WP302	15	M	SIB				A2	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU++	P+		FY--	JK--
WP302	14	F	SIB				A2	MMZZ	CC	D+	II	A-	C+K-	KP--	LU++	P+		FY--	JK--
WP302	13	F	SIB				O	MMSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP302	12	F	SIB				O	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP302	11	F	SIB				O	MMZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP302	10	M	SIB				A2	MMZZ	CC	D+	II	A-	C+K-	KP--	LU++	P+		FY++	JK--
WP302	08	F	SIB				O	MNSZ	CS	D+	EI	A-	C+K-	KP--	LU++	P+		FY--	JK++
WP302	07	M	SIB				O	MMZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP302	05	F	SIB				A2	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU++	P+		FY++	JK--
WP303	64	M	FAT				O	NNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP303	53	F	MOT				O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP303	12	M	SIB	PRO	G3		O	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP303	28	M	SIB				O	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP303	19	F	SIB				O	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP303	17	F	SIB				O	NNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP303	16	F	SIB				O	NNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK--
WP303	15	M	SIB				O	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK--
WP304	24	M	FAT				A1	MMZZ	CWS	D+	II	A+	C+K-	KP--	LU--	P+	LE--	FY--	JK++
WP304	23	F	MOT				O	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE--	FY++	JK--
WP304	01	M	SIB	PRO	G3		A1	MNZZ	SS	D-	II	A-	C+K-	KP--	LU--	P-	LE--	FY++	JK++
WP305	47	M	FAT				O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--

	IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP305	47	F	MOT				O	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK++
WP305	10	M	SIB	PRO	G3		O	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP305	13	F	SIB				O	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP306	40	M	FAT				O	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP306	43	F	MOT				O	MMSZ	SS	D+	EE	A+	C+K-	KP--	LU--	P-		FY--	JK--
WP306	02	F	SIB	PRO	G3		O	MMSZ	SS	D+	EE	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP306	10	M	SIB				O	MNZZ	SS	D+	EI	A-	C+K-	KP--	LU--	P+		FY--	JK++
WP306	09	M	SIB				O	MMZZ	SS	D+	EE	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP306	07	M	SIB				O	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+		FY--	JK--
WP306	05	M	SIB				O	MMZZ	SS	D+	EI	A-	C+K-	KP--	LU--	P+		FY--	JK++
WP306	04	F	SIB				O	MNSZ	SS	D+	EE	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP307	37	M	FAT				A1B	MMZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP307	35	F	MOT				A1	MNZZ	SS	D-	II	A-	C+K-	KP--	LU--	P-		FY--	JK+-
WP307	16	F	SIB	PRO	G3		B	MNZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP307	13	M	SIB				A1	MMZZ	SS	D-	II	A-	C+K-	KP--	LU--	P+		FY--	JK++
WP308	24	M	FAT				O	MMZZ	CS	D+	EI	A-	C+K-	KP--	LU--	P-		FY++	JK++
WP308	24	F	MOT				A1B	NNZZ	CS	D+	EI	A-	C+K-	KP--	LU--	P+		FY--	JK++
WP308	03	F	SIB	PRO	G3		A1	MNZZ	CS	D+	EE	A-	C+K-	KP--	LU--	P+		FY--	JK+-
WP308	07	M	SIB				A1	MNZZ	CC	D+	EI	A-	C+K-	KP--	LU--	P-		FY--	JK++
WP308	04	F	SIB				B	MNZZ	SS	D+	EI	A-	C+K-	KP--	LU--	P+		FY++	JK--
WP309	44	M	FAT				O	MMSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP309	44	F	MOT				A1	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK+-
WP309	07	F	SIB	PRO	G3		A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK+-
WP309	17	F	SIB				A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK+-
WP309	15	F	SIB				A1	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY+-	JK+-
WP309	14	F	SIB				O	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK+-
WP310	35	M	FAT				A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP310	35	F	MOT				A2B	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP310	10	F	SIB	PRO	G3		A1	MMZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK--
WP310	07	F	SIB				A1	MMZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-		FY--	JK+-
WP310	05	M	SIB				A1B	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP311	26	M	FAT				O	NNSZ	SS	D-	II	A+	C+K-	KP++	LU++	P+		FY--	JK++
WP311	24	F	MOT				B	MNSZ	CS	D+	II	A-	C+K-	KP--	LU--	P+		FY--	JK++
WP311	09	M	SIB	PRO	G3		O	NNSZ	SS	D-	II	A-	C+K-	KP++	LU++	P+		FY--	JK++
WP311	03	M	SIB				B	NNZZ	CS	D+	II	A-	C+K-	KP++	LU--	P+		FY--	JK--
WP312	27	M	FAT				A1	MMSZ	CWS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP312	24	F	MOT				O	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP312	01	F	SIB	PRO	G3		A1	MMSZ	CWS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP314	45	M	FAT				A1	NNSZ	CC	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP314	45	F	MOT				A2	MMZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK--
WP314	07	M	SIB	PRO	G3		A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY+-	JK--
WP314	20	M	SIB				A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY+-	JK--
WP314	14	F	SIB				A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP314	11	F	SIB				A1	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP314	04	M	SIB				A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK--
WP315	35	M	FAT				O	MNZZ	SS	D+	EE	A+	C+K-	KP--	LU--	P+	LE--	FY--	JK+-

IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP315	33	F	MOT			O	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE--	FY++	JK--
WP315	06	F	SIB	PRO	G3	O	MMSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP315	11	F	SIB			O	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE--	FY++	JK++
WP315	10	M	SIB			O	MMSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+-	FY--	JK++
WP315	06	F	SIB			O	NNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+-	FY--	JK++
WP316	47	M	FAT			A1	MMSZ	CS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP316	51	F	MOT			O	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE+	FY++	JK+-
WP316	10	M	SIB	PRO	G3	O	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY++	JK+-
WP316	17	M	SIB			A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK++
WP316	15	F	SIB			A1	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK+-
WP316	14	M	SIB			O	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY+-	JK++
WP317	28	M	FAT			O	MMSS	SS	D+	EI	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP317	30	F	MOT			B	MMZZ	CS	D+	II	A+	C+K-	KP--	LU--	P-		FY+-	JK--
WP317	05	M	SIB	PRO	G3	B	MMSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+		FY++	JK--
WP317	08	F	SIB			B	MMSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-		FY++	JK++
WP317	07	M	SIB			B	MMSZ	CS	D+	EI	A-	C+K-	KP--	LU--	P+		FY++	JK++
WP318	26	M	FAT			A1	MMZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP318	20	F	MOT			A1B	MMSZ	SS	D-	II	A+	C+K-	KP--	LU--	P+		FY+-	JK--
WP318	02	M	SIB	PRO	G3	A1	MMZZ	SS	D-	II	A+	C+K-	KP--	LU--	P+		FY++	JK--
WP319	40	M	FAT			A1	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP319	37	F	MOT			O	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP319	01	M	SIB	PRO	G3	O	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK--
WP319	08	F	SIB			O	NNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+		FY--	JK+-
WP319	05	F	SIB			O	NNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK--
WP321	54	M	FAT			A1	MNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP321	57	F	MOT			A1	NNZZ	CS	D+	EI	A+	C+K+	KP--	LU--	P-	LE-	FY--	JK++
WP321	09	M	SIB	PRO	G3	A1	NNZZ	CS	D+	EI	A-	C+K+	KP--	LU--	P-	LE-	FY--	JK++
WP321	23	F	SIB			A1	NNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP321	17	F	SIB			A1	NNZZ	SS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY++	JK++
WP321	18	M	SIB			A1	NNZZ	CC	D+	II	A-	C+K+	KP--	LU--	P-	LE-	FY--	JK--
WP321	13	F	SIB			A1	MNZZ	SS	D+	EI	A+	C+K+	KP--	LU--	P-	LE-	FY++	JK--
WP322	35	M	FAT			A1	MMZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+		FY++	JK--
WP322	31	F	MOT			A1	MNZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY+-	JK++
WP322	07	M	SIB	PRO	G3	A1	MMZZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY+-	JK++
WP322	07	M	SIB			A1	MMZZ	CC	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP323	34	M	FAT			A1	MNSZ	SS	D+	EE	A-	C+K-	KP--	LU--	P+		FY++	JK--
WP323	33	F	MOT			A1	MMSS	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK+-
WP323	12	F	SIB	PRO	G3	A1	MNSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+		FY+-	JK++
WP323	12	M	SIB			A1	MMSS	SS	D+	EI	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP323	10	F	SIB			A1	MNSZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP323	08	M	SIB			A1	MMSS	CS	D+	EI	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP323	06	M	SIB			A1	MMSS	CS	D+	EI	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP324	44	M	FAT			B	NNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+		FY+-	JK--
WP324	38	F	MOT			O	MMSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK--
WP324	11	F	SIB	PRO	G3	O	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-		FY++	JK--
WP325	52	M	FAT			O	MNZZ	CC	D+	II	A-	C+K-	KP--	LU++	P+	LE-	FY++	JK++

	IDENTITY	SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	LUTH	P	LE	FY	KIDD
WP325	50	F	MOT				A1	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP325	24	F	SIB	PRO	G3		O	MNSZ	CS	D+	II		C+K-	KP--		P+	LE-	FY++	JK++
WP326	44	M	FAT				O	MNZZ	CC	D+	II	A-	C+K-	KP--	LU--	P-	LE-	FY--	JK++
WP326	44	F	MOT				A1	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK--
WP326	04	M	SIB	PRO	G3		A1	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY++	JK--
WP326	02	M	SIB				O	MNZZ	CC	D+	II	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK--
WP327	43	M	FAT				O	MNZZ	SS	D+	EI	A-	C+K-	KP++	LU--	P+	LE+	FY--	JK++
WP327	49	F	MOT				O	MNSZ	CS	D+	II	A-	C+K-	KP--	LU--	P-	LE-	FY--	JK--
WP327	10	M	SIB	PRO	G3		O	MNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP327	17	F	SIB				O	MNSZ	SS	D+	EI	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP327	14	F	SIB				O	MNZZ	SS	D-	II	A-	C+K-	KP--	LU--	P+	LE-	FY--	JK++
WP327	08	F	SIB				O	MNSZ	CS	D+	II	A-	C+K-	KP++	LU--	P+	LE-	FY--	JK++
WP327	05	F	SIB				O	MNSZ	SS	D-	II	A-	C+K-	KP++	LU--	P+	LE+	FY--	JK--
WP328		M	FAT				O	MNSZ	CS	D+	II		C+K-	KP--		P+		FY--	JK++
WP328	40	F	MOT				O	MNZZ	CS	D+	II		C+K-	KP--		P+		FY--	JK--
WP328	02	F	SIB	PRO	G3		O	MNZZ	CC	D+	II		C+K-	KP--				FY++	JK--
WP329	32	M	FAT				O	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE-	FY--	JK--
WP329	30	F	MOT				O	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P-	LE-	FY--	JK--
WP329	01	F	SIB	PRO	G3		O	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP329	09	F	SIB				O	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+	LE+	FY--	JK++
WP330	60	M	FAT				A1	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK--
WP330	55	F	MOT				B	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP330	12	F	SIB	PRO	G3		O	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY++	JK--
WP330	29	M	SIB				A1	MNZZ	CS	D+	II	A-	C+K-	KP--	LU--	P+		FY--	JK--
WP330	28	F	SIB				O	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+		FY++	JK--
WP330	26	F	SIB				A1	MNSZ	CS	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP330	20	F	SIB				A1	MNSZ	CC	D+	II	A+	C+K-	KP--	LU--	P+		FY--	JK--
WP330	18	F	SIB				B	MNSZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+		FY--	JK--
WP330	17	F	SIB				A1B	MNZZ	SS	D+	EI	A+	C+K-	KP--	LU--	P+		FY++	JK++
WP330	15	M	SIB				A1	MNZZ	CS	D+	EI	A+	C+K-	KP--	LU--	P+		FY--	JK++
WP331	28	M	FAT				A1	MMZZ	SS	D+	EI		C+K-	KP--	LU--	P+		FY++	
WP331	29	F	MOT				A1	MMSZ	CS	D+	II		C+K-	KP--	LU--	P-		FY--	
WP331	08	M	SIB	PRO	G3		A2	MMSZ	SS	D+	EI		C+K-	KP--	LU--	P-		FY--	
WP331	03	M	SIB				A1	MMZZ	SS	D+	EI		C+K-	KP--	LU--	P+		FY--	
WP332	42	M	FAT				O	MNZZ	SS	D+	EI		C+K-	KP--	LU--	P+		FY++	
WP332	42	F	MOT				A1	MNSZ	CS	D+	II		C+K-	KP--	LU--	P+		FY--	
WP332	02	M	SIB	PRO	G3		A1	MNZZ	CS	D+	II		C+K-	KP--	LU--	P+		FY--	
WP332	07	M	SIB				O	MNZZ	CS	D+	EI		C+K-	KP--	LU--	P+		FY++	
WP332	05	F	SIB				A1	MNZZ	CS	D+	II		C+K-	KP--	LU--	P+		FY++	
WP333	45	M	FAT				B	MMSZ	SS	D+	EI		C+K-	KP--	LU--	P+		FY--	
WP333	43	F	MOT				A1	MMSZ	SS	D+	EI		C+K-	KP--	LU--	P+		FY--	
WP333	02	F	SIB	PRO	G3		A2B	MMSZ	SS	D-	II		C+K-	KP--	LU--	P+		FY--	
WP333	23	M	SIB				A2	MMZZ	SS	D+	EE		C+K-	KP--	LU--	P+		FY--	
WP333	21	M	SIB				A2B	MMSZ	SS	D+	EE		C+K-	KP--	LU--	P+		FY--	
WP333	16	F	SIB				A2	MMZZ	SS	D+	EI		C+K-	KP--	LU--	P+		FY--	
WP333	11	F	SIB				A2B	MMSS	SS	D+	EI		C+K-	KP--	LU--	P+		FY--	

IDENTITY		SEX	REL	PRO	KAR	RACE	ABO	MNSZ	CS	D	E	DUXG	KELL	KP	JUTH	P	LE	FY	KIDD
WP334	56	M	FAT	PRO			O	MNSZ	CS	D+	II		C+K-	KP-	JU+	P+		FY++	
WP334	47	F	MOT				O	MNSZ	CS	D+	II		C+K-	KP-	JU+	P+		FY++	
WP334	10	M	SIB	PRO	G3		O	MNSZ	CS	D-	II		C+K-	KP-	JU+	P+		FY++	
WP334	17	M	SIB				O	MNSZ	CS	D+	II		C+K-	KP-	JU+	P+		FY++	
WP334	15	M	SIB				O	MNSZ	CS	D+	II		C+K-	KP-	JU+	P+		FY++	
WP335	37	M	FAT				A1	NNZZ	CC	D+	II	A+	C+K-	KP-	JU+	P-		FY++	
WP335	32	F	MOT				A1	MNSZ	SS	D-	II	A+	C+K-	KP-	JU+	P+		FY++	
WP335	08	F	SIB	PRO	G3		A1	MNSZ	CS	D+	II	A+	C+K-	KP-	JU+	P+		FY++	
WP335	10	F	SIB				A1	MNSZ	CS	D+	II	A+	C+K-	KP-	JU+	P+		FY++	
WP335	06	F	SIB				A1	MNSZ	CS	D+	II	A+	C+K-	KP-	JU+	P+		FY++	
WP336	03	M	FAT				O	MMSZ	SS	D+	EI		C+K-	KP-	JU+	P+		FY++	
WP336	03	F	MOT				O	MNSZ	CS	D+	EI		C+K-	KP-	JU+	P+		FY++	
WP336	17	F	SIB	PRO	G3		O	MNSZ	SS	D+	EI		C+K-	KP-	JU+	P+		FY++	
WP336	16	F	SIB				O	MNSZ	SS	D+	EI		C+K-	KP-	JU+	P+		FY++	
WP336	14	F	SIB				O	MNSZ	SS	D+	EI		C+K-	KP-	JU+	P+		FY++	
WP336	13	F	SIB				O	MNSZ	CS	D+	EI		C+K-	KP-	JU+	P+		FY++	
WP336	11	F	SIB				O	MNSZ	CS	D+	EI		C+K-	KP-	JU+	P+		FY++	
WP336	08	M	SIB				O	MNSZ	CS	D+	EI		C+K-	KP-	JU+	P+		FY++	
WP337		M	FAT				O	MMSZ	CC	D+	II	A+	C+K-	KP-	JU+	P+		FY++	
WP337		F	MOT				A2	MMSZ	CS	D+	EI	A+	C+K-	KP-	JU+	P+		FY++	
WP337		F	SIB	PRO	G3		O	MMSZ	CC	D+	II	A-	C+K-	KP-	JU+	P+		FY++	
WP337	06	M	SIB				A2	MMSZ	CC	D+	II	A-	C+K-	KP-	JU+	P+		FY++	
WP337	05	M	SIB					MMSZ	CC	D+	II		C+K-	KP-	JU+	P+		FY++	
WP337	02	M	SIB					MMSZ	CS	D+	EI	A-	C+K-	KP-	JU+	P+		FY++	
WP338	33	M	FAT				O	MNSZ	CC	D+	II		C+K-	KP-	JU+	P-		FY++	
WP338	31	F	MOT				O	MNSZ	CS	D+	II		C+K-	KP-	JU+	P+		FY++	
WP338	02	F	SIB	PRO	G3		O	MNSZ	CS	D+	II		C+K-	KP-	JU+	P+		FY++	
WP338	04	M	SIB				O	MNSZ	CS	D+	II		C+K-	KP-	JU+	P+		FY++	

WINNIPEG DATA (CONT'D)

2. Gm, Inv, Hp, Tf AND Gc PHENOTYPES

IN THE CASE OF Gm AND Inv, POSITIVE AND NEGATIVE ANTIGENIC RESPONSES ARE CODED AS 1 AND 0 RESPECTIVELY.

EACH INDIVIDUAL IS IDENTIFIED BY HIS FAMILY NUMBER AND HIS FAMILIAL STATUS:

F: FATHER

M: MOTHER

P: PROPOSITUS

S: PROPOSITUS' SIBS.

STUDY NO. REL GM INV HP TF GC

1 2 3 5 6 10 14 15 16 17 21 23
4 12 13

WP	191	F	0	0	1	1	0	1	1									0				
WP	191	M	0	0	1	1	0	1	1									0				
WP	191	P	0	0	1	1	0	1	1									0				
	0																					
WP	288	F	1	0	1	1	0	1	1									1	0			
WP	288	M	0	0	1	1	0	1	1									0	0			
WP	288	P	1	0	1	1	0	1	1									1	0			
WP	288	S	0	0	1	1	0	1	1									0	0			
WP	288	S	1	0	1	1	0	1	1									1	0			
	0																					
WP	194	F	1	1		1	0											1	2	C	1	
WP	194	M	1	1		1	0											0	21	C	1	
WP	194	P	1	1		1	0											1	2	C	1	
WP	194	S	1	1	0	0	0	0	0									1				
	0																					
WP	195	F	1	0		1	0											0				
WP	195	M	0	0		1	0											0				
WP	195	P	0	0		1	0											0				
WP	195	S	1	0	1	1	0	1	1									0				
	0																					
WP	196	F	1	1	1	1	0	1	1									0				
WP	196	M	1	1	1	1	0	1	1									1				
WP	196	P	1	1	1	1	0	1	1									1				
WP	196	S	1	1	1	1	0	1	1									1				
	0																					
WP	197	F	0	0		1	0	1	1									0				
WP	197	M	1	0		1	0	1	1									0				
WP	197	P	1	0		1	0	1	1									0				
WP	197	S	1	0		1	0	1	1									0				
WP	197	S	0	0		1	0	1	1									0				
WP	197	S	1	0		1	0	1	1									0				
WP	197	S	1	0		1	0	1	1									0				
WP	197	S	0	0		1	0	1	1									0				
WP	197	S	0	0		1	0	1	1									0				
	0																					
WP	199	F	1	0	1	1	0	1	1									0				
WP	199	M	0	0	1	1	0	1	1									1				
WP	199	P	0	0	1	1	0	1	1									1				
WP	199	S	0	0	1	1	0	1	1									1				
WP	199	S	1	0	1	1	0	1	1									0				
	0																					
WP	200	F	0	0	1	1	0	1	1									0				
WP	200	M	1	0	1	1	0	1	1									0				
WP	200	P	1	0	1	1	0	1	1									0				
WP	200	S	1	0	1	1	0	1	1									0				
WP	200	S	1	0	1	1	0	1	1									0				
	0																					
WP	202	F	0	0	1	1	0	1	1									0	0			
WP	202	M	0	0	1	1	0	1	1									0	0			
WP	202	P	0	0	1	1	0	1	1									0	0			
WP	202	S	0	0	1	1	0	1	1									0	0			
WP	202	S	0	0	1	1	0	1	1									0	0			
WP	202	S	0	0	1	1	0	1	1									0	0			
	0																					
WP	204	F	1	0	1	1	0	1	1									0				

STUDY NO.	REL	GM										INV HP TF GC					
		1	2	3	5	6	10	14	15	16	17	21	23				
				4	12		13										
WP	204	M	0	0	1	1	0	1	1					0			
WP	204	P	1	0	1	1	0	1	1					0			
WP	204	S	0	0	1	1	0	1	1					0			
WP	204	S	0	0	1	1	0	1	1					0			
	0																
WP	289	F	0	0	1	1	0	1	1			0		0			
WP	289	M	0	0	1	1	0	1	1			0		0			
WP	289	P	0	0	1	1	0	1	1			0		0			
WP	289	S	0	0	1	1	0	1	1			0		0			
WP	289	S	0	0	1	1	0	1	1			0		0			
WP	289	S	0	0	1	1	0	1	1			0		0			
	0																
WP	205	F	0	0	1	1	0	1	1			0		01			
WP	205	M	0	0	1	1	0	1	1			0		01	2	C	2
WP	205	P	0	0	1	1	0	1	1			0		01	21	C	2
WP	205	S	0	0		1	0							0	21	C	2
WP	205	S	0	0		1	0							0	21	C	2
	0																
WP	206	F	1	1	0	0	0	0	0					0			
WP	206	M	1	0	1	1	0	1	1					1	21	C	
WP	206	P	1	1	1	1	0	1	1					0	21	C	
WP	206	S	1	1	1	1	0	1	1					0			
WP	206	S	1	1	1	1	0	1	1					1			
WP	206	S	1	0	1	1	0	1	1					1			
WP	206	S	1	0	0	0	0	0	0					0			
WP	206	S	1	0	1	1	0	1	1					0			
WP	206	S	1	0	1	1	0	1	1					1			
WP	206	S	1	1	0	0	0	0	0					1			
WP	206	S	1	1	0	0	0	0	0					0	21	C	
WP	206	S	1	1	0	0	0	0	1					0			
	0																
WP	290	F	1	0	0	1	0	1	1			1		0			
WP	290	M	0	0	1	1	0	1	1			0		1			
WP	290	P	1	1	1	1	0	1	1			1		1			
WP	290	S	1	0	1	1	0	1	1			0		0			
WP	290	S	1	0	1	1	0	1	1			0		0			
WP	290	S	1	0	1	1	0	1	1			1		1			
WP	290	S	1	0	1	1	0	1	1			0		0			
WP	290	S	1	0	1	1	0	1	1			0		0			
WP	290	S	1	0	1	1	0	1	1			0		0			
WP	290	S	1	0	1	1	0	1	1			0		1			
WP	290	S	1	0	1	1	0	1	1			1		1			
WP	290	S	1	0	1	1	0	1	1			1		1			
WP	290	S	1	0	1	1	0	1	1			0		1			
	0																
WP	207	F	1	0	1	1	0	1	1					0			
WP	207	M	0	0	1	1	0	1	1					0			
WP	207	P	0	0	1	1	0	1	1					0			
WP	207	S	1	0	1	1	0	1	1					0			
WP	207	S	0	0	1	1	0	1	1					0			
	0																
WP	208	F	1	0	1	1	0	1	1			1		01	2	C	1
WP	208	M	0	0	1	1	0	1	1			0		01	21	C	1
WP	208	P	0	0	1	1	0							0			1
WP	208	S	1	0	1	1	0	1	1			1		01			

STUDY NO. REL

GM

INV HP TF GC

1 2 3 5 6 10 14 15 16 17 21 23
4 12 13

WP	208	S	0	0	1	1	0	1	1		0	01
WP	208	S	1	0	1	1	0	1	1		1	01
	0											
WP	291	F	0	0	1	1	0	1	1		0	01
WP	291	M	1	0	1	1	0	1	1		1	01
WP	291	P	1	0	1	1	0	1	1		1	01
WP	209	F	1	0		1	0					0
WP	209	M	0	0		1	0					0
WP	209	P	1	0		1	0					0
WP	209	S	1	0		1	0					0
WP	209	S	0	0		1	0					0
	0											
WP	213	F	0	0		1	0					0
WP	213	M	0	0		1	0					0
WP	213	P	0	0		1	0					0
WP	213	S	0	0		1	0					0
	0											
WP	215	F	0	0	1	1	0	1	1			0
WP	215	M	1	0	1	1	0	1	1			0
WP	215	P	1	0	1	1	0	1	1			0
WP	215	S	0	0	1	1	0	1	1			0
WP	215	S	1	0	1	1	0	1	1			0
WP	215	S	1	0	1	1	0	1	1			0
WP	215	S	1	0	1	1	0	1	1			0
	0											
WP	216	F	0	0	1	1	0	1	1			0
WP	216	M	1	0	1	1	0	1	1			0
WP	216	P	1	0	1	1	0	1	1			0
WP	216	S	0	0	1	1	0	1	1			0
	0											
WP	217	F	0	0	1	1	0	1	1		0	01
WP	217	M	0	0	1	1	0	1	1		0	01
WP	217	P	0	0	1	1	0	1	1		0	01
WP	217	S	0	0	1	1	0	1	1		0	01
WP	217	S	0	0	1	1	0	1	1		0	01
WP	217	S	0	0	1	1	0	1	1		0	01
WP	217	S	0	0	1	1	0	1	1		0	01
	0											
WP	218	F	0	0	1	1	0	1	1			0
WP	218	M	1	0	1	1	0	1	1			0
WP	218	P	1	0	1	1	0	1	1			0
WP	218	S	1	0	1	1	0	1	1			0
WP	218	S	0	0	1	1	0	1	1			0
	0											
WP	293	F	1	0	1	1	0	1	1		1	0
WP	293	M	1	0	1	1	0	1	1		1	1
WP	293	P	1	0	1	1	0	1	1		1	0
WP	293	S	1	0	1	1	0	1	1		1	1
WP	293	S	1	0	1	1	0	1	1		1	1
	0											
WP	258	F	1	1	1	1	0	1	1		1	01
WP	258	M	0	0	1	1	0	1	1		0	01
WP	258	P	0	0	1	1	0	1	1		0	01
	0											
WP	294	F	0	0	1	1	0	1	1		0	0

[illegible]

STUDY NO. REL GM INV HP TF GC

1 2 3 5 6 10 14 15 16 17 21 23
4 12 13

WP	254	F	0	0	1	1	0	1	1												0			
WP	254	M	1	0	1	1	0	1	1												1			
WP	254	P	1	0	1	1	0	1	1												1			
WP	254	S	0	0		1	0	1	1												1			
WP	254	S	1	0		1	0	1	1												0			
	0																							
WP	253	F	1	0	1	1	0	1	1												0			
WP	253	M	1	1	1	1	0	1	1												0			
WP	253	P	1	1	0	0	0	0	0												0			
WP	253	S	0	0	1	1	0	1	1												0			
	0																							
WP	302	F	1	0	1	1	0	1	1												1	0		
WP	302	M	1	0	1	1	0	1	1												1	0		
WP	302	P	0	0	1	1	0	1	1												0	0		
WP	302	S	0	0	1	1	0	1	1												0	0		
WP	302	S	1	0	0	0	0	0	0												1	0		
WP	302	S	1	0	0	0	0	0	0												1	0		
WP	302	S	1	0	0	0	0	0	0												1	0		
WP	302	S	1	0	1	1	0	1	1												1	0		
WP	302	S	1	0	0	0	0	0	0												1	0		
WP	302	S	0	0	1	1	0	1	1												0	0		
WP	302	S	0	0	1	1	0	1	1												0	0		
	0																							
WP	255	F	1	1	1	1	0	1	1												0			
WP	255	M	1	0	1	1	0	1	1												0			
WP	255	P	1	1	1	1	0	1	1												0			
WP	255	S	1	1	1	1	0	1	1												0			
	0																							
WP	257	F	1	0	0	0	0	0	0												0	21	C	
WP	257	M	0	0	1	1	0	1	1												0	21	C	
WP	257	P	1	0	1	1	0	1	1												0	2	C	
WP	257	S																				2	C	
	0																							
WP	3	F	1	0		1	0														0	2	C	21
WP	3	M	1	0		0	0														0	21	C	21
WP	3	P	1	0		1	0														0	2	C	1
WP	3	S	1	0		0	0														0	21	C	21
WP	3	S	1	0		1	0														0	21	C	21
	0																							
WP	304	F	1	0	1	1	0	1	1												1	11		
WP	304	M	1	1	1	1	0	1	1												1	01		
WP	304	P	1	1	1	1	0	1	1												1	01		
	0																							
WP	5	F	1	0	1	1	0	1	1												0			
WP	5	M	0	0	1	1	0	1	1												0			
WP	5	P	1	0	1	1	0	1	1												0			
WP	5	S	0	0	1	1	0	1	1												0			
WP	5	S	1	0	1	1	0	1	1															
	0																							
WP	305	F	0	0	1	1	0	1	1												0	11		
WP	305	M	1	0	1	1	0	1	1												1	01		
WP	305	P	0	0	1	1	0	1	1												0	01		
WP	305	S	1	0	1	1	0	1	1												1	11		
	0																							
WP	9	F	0	0	1	1	0	1	1												0			

STUDY NO.		REL	1	2	3	5	6	10	GM	14	15	16	17	21	23	INV	HP	TF	GC
					4	12		13											
WP	31	S	1	0	1	1	0	1	1							0	1	C	
WP	31	S	0	0	1	1	0	1	1							0			
	0																		
WP	37	F	0	0	1	1	0	1	1							0			
WP	37	M	0	0	1	1	0	1	1							0			
WP	37	P	0	0	1	1	0	1	1							0			
WP	37	S	0	0	1	1	0	1	1							0			
WP	37	S	0	0	1	1	0	1	1							0			
	0																		
WP	38	F	1	1	0	0	0	0	0							0			
WP	38	M	1	1	1	1	0	1	1							1			
WP	38	P	1	1	0	0	0	0	0							0			
WP	38	S	1	1	1	1	0	1	1							0			
WP	38	S	1	1	0	0	0	0	0							0			
WP	38	S	1	1	0	0	0	0	0							0			
	0																		
WP	39	F	1	0		1	0									0			
WP	39	M	0	0		1	0									1			
WP	39	P	0	0		1	0									1			
	0																		
WP	40	F	1	0	1	1	0	1	1							0			
WP	40	M	1	1	1	1	0	1	1							0			
WP	40	P	1	1	0	0	0	0	0							0			
	0																		
WP	188	F	1	0		1	0									1			
WP	188	M	1	1		0	0									0			
WP	188	P	1	1		0	0									0			
WP	188	S	1	0		1	0									0			
WP	188	S	1	0		0	0									0			
WP	188	S	1	0		1	0									1			
	0																		
WP	41	F	0	0		1	0									0			
WP	41	M	1	0		1	0									0			
WP	41	P	0	0		1	0									0			
WP	41	S	1	0		1	0									0			
WP	41	S	1	0		1	0									0			
WP	41	S	1	0		1	0									0			
WP	41	S	1	0		1	0									0			
WP	41	S	0	0		1	0									0			
	0																		
WP	42	F	1	0	1	1	0	1	1							1			
WP	42	M	0	0	1	1	0	1	1							1			
WP	42	P	1	0	1	1	0	1	1							1			
	0																		
WP	44	F	1	1	0	0	0	0	0							0			
WP	44	M	1	0	1	1	0	1	1							0			
WP	44	P	1	1	0	0	0	0	0							0			
WP	44	S	1	0	1	1	0	1	1							0			
	0																		
WP	45	F	0	0	1	1	0	1	1							0			
WP	45	M	1	0	1	1	0	1	1							0			
WP	45	P	1	0	1	1	0	1	1							0			
	0																		
WP	311	F	1	0	0	0	0	0	0					1		01			
WP	311	M	1	0	1	1	0	1	1					1		01			

STUDY NO.	REL	GM												INV	HP	TF	GC
		1	2	3	5	6	10	14	15	16	17	21	23				
			4	12		13											
WP	311	P	1	0	1	1	0	1	1				1		01		
WP	311	S	1	0	0	0	0	0	0				1		01		
	0																
WP	46	F	0	0	1	1	0	1	1						1	2	C
WP	46	M	0	0	1	1	0	1	1						0	21	C
WP	46	P	0	0	1	1	0	1	1						0	2	C
WP	46	S														2	C
WP	46	S	0	0	1	1	0	1	1						0	21	C
	0																
WP	49	F	1	1	1	1	0	1	1						0		
WP	49	M	1	0	1	1	0	1	1						0		
WP	49	P	0	0	1	1	0	1	1						0		
WP	49	S	1	1	1	1	0	1	1						0		
WP	49	S	1	0	1	1	0	1	1						0		
	0																
WP	50	F	1	0	1	1	0	1	1				1		01		
WP	50	M	1	0	1	1	0	1	1				1		01		
WP	50	P	0	0	1	1	0	1	1				0		01		
WP	50	S	1	0	0	0	0	0	0				1		01		
	0																
WP	52	F	0	0	1	1	0	1	1						0		
WP	52	M	1	1	1	1	0	1	1						0		
WP	52	P	0	0	1	1	0	1	1						0		
WP	52	S	0	0	1	1	0	1	1						0		
WP	52	S	1	1	1	1	0	1	1						0		
	0																
WP	51	F	1	0	0	0	0	0	0						0		
WP	51	M	0	0	1	1	0	1	1						0		
WP	51	P	1	0	1	1	0	1	1						0		
WP	51	S	1	0	1	1	0	1	1						0		
WP	51	S	1	0	1	1	0	1	1						0		
WP	51	S	1	0	1	1	0	1	1						0		
WP	51	S	1	0	1	1	0	1	1						0		
WP	51	S	1	0	1	1	0	1	1						0		
WP	51	S	1	0	1	1	0	1	1						0		
WP	51	S	1	0	1	1	0	1	1						0		
	0																
WP	54	F	1	0	0	0	0	0	0				1		1		
WP	54	M	1	1	1	1	0	1	1				1		1		
WP	54	P	1	0	1	1	0	1	1				1		0		
WP	54	S	1	0	1	1	0	1	1				1		1		
WP	54	S	1	1	0	0	0	0	0				1		1		
WP	54	S	1	0	1	1	0	1	1				1		1		
WP	54	S	1	0	1	1	0	1	1				1		1		
WP	54	S	1	0	1	1	0	1	1				1		1		
	0																
WP	312	F	0	0	1	1	0	1	1				0		01		
WP	312	M	1	0	1	1	0	1	1				1		01		
WP	312	P	1	0	1	1	0	1	1				1		01		
	0																
WP	55	F	0	0		1	0	1	1						0		
WP	55	M	0	0		1	0	1	1						0		
WP	55	P	0	0		1	0	1	1						0		
WP	55	S	0	0		1	0	1	1						0		
WP	55	S	0	0		1	0	1	1						0		

STUDY NO.	REL	GM										INV HP TF GC			
		1	2	3	5	6	10	14	15	16	17	21	23		
				4	12		13								
WP	55	S	0	0		1	0	1						0	
WP	55	S	0	0		1	0	1						0	
	0														
WP	56	F	0	0	1	1	0	1						0	
WP	56	M	0	0	1	1	0	1						0	
WP	56	P	0	0	1	1	0	1						0	
WP	56	S	0	0	1	1	0	1						0	
WP	56	S	0	0	1	1	0	1						0	
	0														
WP	57	F	1	0	1	1	0	1						0	
WP	57	M	1	0	1	1	0	1						0	
WP	57	P	1	0	1	1	0	1						0	
WP	57	S	1	0	1	1	0	1						0	
WP	57	S	1	0	1	1	0	1						0	
WP	57	S	1	0	1	1	0	1						0	
WP	57	S	1	0	0	0	0	0	0					0	
WP	57	S	1	0	1	1	0	1						0	
WP	57	S	1	0	0	0	0	0	0					0	
	0														
WP	58	F	0	0	1	1	0	1						1	
WP	58	M	1	0	1	1	0	1						0	
WP	58	P	0	0	1	1	0	1						0	
WP	58	S	0	0	1	1	0	1						1	
WP	58	S	0	0	1	1	0	1						1	
WP	58	S	0	0	1	1	0	1						0	
	0														
WP	59	F	0	0	1	1	0	1						0	
WP	59	M	0	0	1	1	0	1						0	
WP	59	P	0	0	1	1	0	1						0	
WP	59	S	0	0	1	1	0	1						0	
	0														
WP	66	F	1	1	0	0	0	0	0					0	
WP	66	M	0	0	1	1	0	1						0	
WP	66	P	1	1	1	1	0	1						0	
WP	66	S	1	1	1	1	0	1						0	
WP	66	S	1	1	1	1	0	1						0	
WP	66	S	1	1	1	1	0	1						0	
WP	66	S	1	1	1	1	0	1						0	
WP	66	S	1	1	1	1	0	1						0	
WP	66	S	1	1	1	1	0	1						0	
WP	66	S	1	1	1	1	0	1						0	
WP	66	S	1	1	1	1	0	1						0	
	0														
WP	315	F	0	0	1	1	0	1				0		01	
WP	315	M	1	0	0	0	0	0	0			1		01	
WP	315	P	1	0	1	1	0	1				1		01	
WP	315	S	1	0	1	1	0	1				1		01	
WP	315	S	1	0	1	1	0	1				1		01	
WP	315	S	1	0	1	1	0	1				1		01	
	0														
WP	61	F	0	0	1	1	0	1						0	
WP	61	M	0	0	1	1	0	1						0	
WP	61	P	0	0	1	1	0	1						0	
WP	61	S	0	0	1	1	0	1						0	

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STUDY NO.	REL	GM													INV HP TF GC			
		1	2	3	5	6	10	14	15	16	17	21	23					
				4	12		13											
WP	91	F	0	0		1	0						0	21	C	1		
WP	91	M	0	0		1	0						0	2	C	1		
WP	91	P	0	0		1	0						0	2	C	1		
WP	91	S	0	0	1	1	0	1				0	01					
WP	91	S	0	0	1	1	0	1				0	01					
WP	91	S	0	0		1	0						0	21	C	1		
	0																	
WP	321	F	0	0	1	1	0	1					0					
WP	321	M	1	1	1	1	0	1					0					
WP	321	P	1	1	1	1	0	1					0					
WP	321	S	0	0	1	1	0	1				0	0					
WP	321	S	0	0	1	1	0	1				0	0					
WP	321	S	0	0	1	1	0	1					0					
WP	321	S	1	1	1	1	0	1					0					
	0																	
WP	93	F	0	0		1	0						0	21	C	1		
WP	93	M	1	1		1	0						0	2	C	1		
WP	93	P	1	1		1	0						0			1		
WP	93	S	1	1		1	0						0	21	C	1		
WP	93	S	0	0		1	0						0	21	C	1		
	0																	
WP	95	F	0	0	1	1	0	1					0	21	C			
WP	95	M	1	0	1	1	0	1					0	21	C			
WP	95	P	1	0	1	1	0	1					0	21	C			
WP	95	S	1	0	1	1	0	1					0	1	C			
WP	95	S	0	0	1	1	0	1					0	21	C			
	0																	
WP	96	F	1	0		1	0						0					
WP	96	M	0	0		1	0						0					
WP	96	P	0	0		1	0						0					
	0																	
WP	97	F	1	0		1	0						0	21	C	1		
WP	97	M	0	0		1	0						0	21	C	1		
WP	97	P	1	0		1	0						0	1	C	1		
WP	97	S	1	0		1	0						0					
WP	97	S	0	0		1	0						0					
WP	97	S	1	0		1	0						0	21	C	1		
WP	97	S	0	0		1	0						0	2	C	1		
WP	97	S	1	0		1	0						0	1	C	1		
	0																	
WP	98	F	1	0	1	1	0	1					0					
WP	98	M	1	0	1	1	0	1					0					
WP	98	P	1	0	1	1	0	1					0					
WP	98	S	1	0	0	0	0	0					0					
WP	98	S	1	0	1	1	0	1					0					
WP	98	S	1	0	1	1	0	1					0					
	0																	
WP	100	F	1	1		1	0						0					
WP	100	M	0	0		1	0						0					
WP	100	P	1	1		1	0						0					
WP	100	S	1	1		1	0						0					
WP	100	S	0	0		1	0						0					
	0																	
WP	99	F	0	0		1	0						0					
WP	99	M	1	1		1	0						0					

STUDY NO.			REL	GM													INV HP TF GC					
				1	2	3	5	6	10	14	15	16	17	21	23							
				4		12	13															
WP	116	F		1	0	1	1	0	1	1					1	0						
WP	116	M		0	1	1	1	0	1	1					0	0						
WP	116	P		1	1	1	1	0	1	1					1	0						
WP	116	S		1	1	1	1	0	1	1					1	0						
	0																					
WP	117	F		0	0	1	1	0	1	1												
WP	117	M		0	0	1	1	0	1	1												
WP	117	P		0	0	1	1	0	1	1												
WP	117	S		0	0	1	1	0	1	1												
WP	117	S		0	0	1	1	0	1	1												
WP	117	S		0	0	1	1	0	1	1												
WP	117	S		0	0	1	1	0	1	1												
WP	117	S		0	0	1	1	0	1	1												
WP	117	S		0	0	1	1	0	1	1												
WP	117	S		0	0	1	1	0	1	1												
WP	117	S		0	0	1	1	0	1	1												
	0																					
WP	118	F		1	0	1	1	0	1	1						0						
WP	118	M		1	1	1	1	0	1	1						0						
WP	118	P		1	1	0	0	0	0	0						0						
WP	118	S		1	1	0	0	0	0	0						0						
WP	118	S		1	0	1	1	0	1	1						0						
WP	118	S		1	1	0	0	0	0	0						0						
	0																					
WP	119	F		1	1		1	0	1	1						0						
WP	119	M		0	0		1	0	1	1						0						
WP	119	P		1	1		1	0	1	1						0						
WP	119	S		1	1		1	0	1	1						0						
WP	119	S		0	0		1	0	1	1						0						
WP	119	S		1	1		1	0	1	1						0						
WP	119	S		0	0		1	0	1	1						0						
WP	119	S		0	0		1	0	1	1						0						
WP	119	S		0	0		1	0	1	1						0						
WP	119	S		1	1		1	0	1	1						0						
	0																					
WP	120	F		1	1	1	0	0	1	0					0	2	C					
WP	120	M		1	1	1	1	0	1	1					1	2	C					
WP	120	P		1	1	0	0	0	0	0					0		C					
WP	120	S		1	1	1	1	0	1	1					1	2	C					
WP	120	S		0	0	1	1	0	1	1					1	2	C					
	0																					
WP	123	F		0	0	1	1	0	1	1					0							
WP	123	M		0	0	1	1	0	1	1					0							
WP	123	P		0	0	1	1	0	1	1					0							
	0																					
WP	124	F		0	0		1	0							0							
WP	124	M		1	1		0	0							0							
WP	124	P		1	1		1	0							0							
	0																					
WP	126	F		0	0	1	1	0	1	1					0							
WP	126	M		0	0	1	1	0	1	1					0							
WP	126	P		0	0	1	1	0	1	1					0							
WP	126	S		0	0	1	1	0	1	1					0							
	0																					
WP	128	F		1	1	1	1	0	1	1					1							

STUDY NO. REL GM INV HP TF GC

1 2 3 5 6 10 14 15 16 17 21 23

4 12 13

WP	128	M	0	0	1	1	0	1	1												0				
WP	128	P	0	0	1	1	0	1	1												1				
WP	128	S	1	1	1	1	0	1	1												1				
WP	128	S	1	1	1	1	0	1	1												0				
WP	128	S	1	1	1	1	0	1	1												0				
WP	128	S	0	0	1	1	0	1	1												1				
	0																								
WP	129	F	0	0	1	1	0	1	1												0				
WP	129	M	0	0	1	1	0	1	1												0				
WP	129	S	0	0	1	1	0	1	1												0				
WP	129	P	0	0	1	1	0	1	1												0				
WP	129	P	0	0	1	1	0	1	1												0				
	0																								
WP	130	F	0	0	1	1	0	1	1												1				
WP	130	M	1	0	1	1	0	1	1												1	21	C		1
WP	130	P	1	0	1	1	0	1	1												1	21	C		1
WP	130	S	0	0	1	1	0	1	1												1	21	C		21
WP	130	S	0	0	1	1	0	1	1												1	1	C		21
WP	130	S	1	0	1	1	0	1	1												1	1	C		1
WP	130	S	1	0	1	1	0	1	1												1				
WP	130	S	1	0	1	1	0	1	1												1	21	C		1
	0																								
WP	270	F	1	0	1	1	0	1	1												0	21	C		
WP	270	M	1	0	1	1	0	1	1												0	21	C		
WP	270	P	0	0	1	1	0	1	1												0	21	C		
WP	270	S																				21	C		
	0																								
WP	132	F	1	0		1	0	1	1												0				
WP	132	M	1	0		1	0	1	1												0				
WP	132	P	1	0		1	0	1	1												0				
WP	132	S	1	0		1	0	1	1												0				
WP	132	S	1	0		1	0	1	1												0				
	0																								
WP	134	F	1	0	1	1	0	1	1												0				
WP	134	M	0	0	1	1	0	1	1												0				
WP	134	P	0	0	1	1	0	1	1												0				
WP	134	S	1	0	1	1	0	1	1												0				
WP	134	S	1	0	1	1	0	1	1												0				
WP	134	S	1	0	1	1	0	1	1												0				
WP	134	S	0	0	1	1	0	1	1												0				
WP	134	S	1	0	1	1	0	1	1												0				
	0																								
WP	322	F	1	0	1	1	0	1	1												0				
WP	322	M	0	0	1	1	0	1	1												0				
WP	322	P	0	0	1	1	0	1	1												0				
WP	322	S	1	0	1	1	0	1	1												0				
	0																								
WP	135	F	0	0	1	1	0	1	1												0	21	C		
WP	135	M	1	1	1	1	0	1	1												0	21	C		
WP	135	P	1	1	1	1	0	1	1												0	21	C		
	0																								
WP	136	F	1	0	1	1	0	1	1												0				
WP	136	M	0	0	1	1	0	1	1												0				
WP	136	P	1	0	1	1	0	1	1												0				
WP	136	S	0	0	1	1	0	1	1												0				

STUDY NO.	REL	GM													INV HP TF GC								
		1	2	3	5	6	10	14	15	16	17	21	23										
				4	12		13																
WP	136	S	1	0	1	1	0	1	1											0			
	0																						
WP	137	F	0	0	1	1	0	1	1											0			
WP	137	M	0	0	1	1	0	1	1											0			
WP	137	P	0	0	1	1	0	1	1											0			
WP	137	S	0	0	1	1	0	1	1		0						0						
	0																						
WP	138	F	0	0		1	0											0					
WP	138	M	1	0		1	0											1					
WP	138	P	1	0	1	1	0	1	1		1						1						
WP	138	S	0	0	1	1	0	1	1											0			
WP	138	S	0	0		1	0											11					
WP	138	S	0	0		1	0											1					
WP	138	S	1	0		1	0											1					
WP	138	S	0	0	1	1	0	1	1		0						11						
WP	138	S	0	0	1	1	0	1	1											1			
	0																						
WP	140	F	0	0		1	0											0	21	C	1		
WP	140	M	0	0		1	0											1	1	C	1		
WP	140	P	0	0		1	0											1	1	C	1		
WP	140	S	0	0		1	0											0	21	C	1		
	0																						
WP	161	F	0	0		1	0											0					
WP	161	M	1	0		1	0											0					
WP	161	P	0	0		1	0											0					
WP	161	S	0	0		1	0											0					
WP	161	S	1	0		1	0											0					
	0																						
WP	162	F	1	0		1	0											1					
WP	162	M	1	0		1	0											0					
WP	162	P	1	0		1	0											1					
WP	162	S	1	0		1	0											1					
WP	162	S	1	0		1	0											1					
WP	162	S	0	0		1	0											1					
WP	162	S	1	0		1	0											1					
WP	162	S	1	0		0	0											1					
WP	162	S	1	0		1	0											1					
WP	162	S	1	0		1	0											1					
WP	162	S	0	0		1	0											1					
WP	162	S	1	0		1	0											1					
WP	162	S	1	0		1	0											1					
	0																						
WP	141	F	0	0	1	1	0	1	1											1			
WP	141	M	0	0	1	1	0	1	1											0			
WP	141	P	0	0	1	1	0	1	1											0			
WP	141	S	0	0	1	1	0	1	1											0			
WP	141	S	0	0	1	1	0	1	1											0			
	0																						
WP	142	F	0	0		1	0											0	2	C	1		
WP	142	M	0	0		1	0											0	21	C	1		
WP	142	P	0	0		1	0											0					
WP	142	S	0	0	1	1	0	1	1		0						01						
WP	142	S	0	0	1	1	0	1	1		0						01						
WP	142	S	0	0	1	1	0	1	1											0			

STUDY NO. REL

1 2 3 5 6 10 14 15 16 17 21 23
4 12 13

GM

INV HP TF GC

0													
WP	143	F	0	0	1	1	0	1	1	0			
WP	143	M	1	0	1	1	0	1	1	0			
WP	143	P	1	0	1	1	0	1	1	0			
WP	143	S	0	0	1	1	0	1	1	0			
WP	143	S	0	0	1	1	0	1	1	0			
WP	143	S	1	0	1	1	0	1	1	0			
WP	143	S	1	0	1	1	0	1	1	0			
0													
WP	144	F	1	0	1	1	0	1	1	0			
WP	144	M	1	0	0	0	0	0	0	0			
WP	144	P	1	0	1	1	0	1	1	0			
WP	144	S	1	0	1	1	0	1	1	0			
WP	144	S	1	0	0	0	0	0	0	0			
WP	144	S	1	0	1	1	0	1	1	0			
0													
WP	145	F	1	0	0	0	0	0	0	0			
WP	145	M	1	1	1	1	0	1	1	1			
WP	145	P	1	0	1	1	0	1	1	1			
WP	145	S	1	1	0	0	0	0	0	0			
WP	145	S	1	1	0	0	0	0	0	0			
0													
WP	146	F	1	0	1	1	0	1	1	0			
WP	146	M	1	1	0	0	0	0	0	0			
WP	146	P	1	0	0	0	0	0	0	0			
WP	146	S	1	1	0	0	0	0	0	0			
WP	146	S	1	1	0	0	0	0	0	0			
WP	146	S	1	0	1	1	0	1	1	0			
0													
WP	147	F	1	1	1	1	0	1	1	0			
WP	147	M	1	0	1	1	0	1	1	1			
WP	147	P	1	1	1	1	0	1	1	0			
WP	147	S	1	0	1	1	0	1	1	0			
WP	147	S	1	1	1	1	0	1	1	0			
WP	147	S	1	0	1	1	0	1	1	0			
0													
WP	148	F	1	0		1	0			1	2	C	1
WP	148	M	1	1		1	0			1	2	C	1
WP	148	P	1	1		1	0			1	2	C	1
WP	148	S	0	0		1	0			1	2	C	1
0													
WP	149	F	0	0	1	1	0	1	1	1			
WP	149	M	1	0	0	0	0	0	0	0			
WP	149	P	1	0	1	1	0	1	1	1			
WP	149	S	1	0	1	1	0	1	1	1			
WP	149	S	1	0	1	1	0	1	1	1			
WP	149	S	1	0	1	1	0	1	1	1			
WP	149	S	1	0	1	1	0	1	1	1			
WP	149	S	1	0	1	1	0	1	1	1			
WP	149	S	1	0	1	1	0	1	1	1			
WP	149	S	1	0	1	1	0	1	1	1			
0													
WP	150	F	0	0	1	1	0	1	1	0			
WP	150	M	0	0	1	1	0	1	1	0			
WP	150	P	0	0	1	1	0	1	1	0			
WP	150	S	0	0	1	1	0	1	1	0			

STUDY NO. REL

GM

INV HP TF GC

1 2 3 5 6 10 14 15 16 17 21 23
4 12 13

[illegible]

STUDY NO.			REL	GM										INV	HP	TF	GC		
				1	2	3	5	6	10	14	15	16	17	21	23				
				4	12	13													
WP	329	F		0	0	1	1	0	1	1					0		01		
WP	329	M		1	1	1	1	0	1	1					1		01		
WP	329	P		1	1	1	1	0	1	1					1		01		
WP	329	S		1	1	1	1	0	1	1					1		01		
0																			
WP	178	F		1	0		1	0	1	1							0		
WP	178	M		1	1		1	0	1	1							0		
WP	178	P		0	0		1	0	1	1							0		
WP	178	P		1	1		1	0	1	1							0		
WP	178	S		1	1		1	0	1	1							0		
WP	178	S		1	0		1	0	1	1							0		
0																			
WP	180	F		0	0	1	1	0	1	1							0		
WP	180	M		0	0	1	1	0	1	1							1		
WP	180	P		0	0	1	1	0	1	1							1		
WP	180	S		0	0	1	1	0	1	1							0		
WP	180	S		0	0	1	1	0	1	1							0		
WP	180	S		0	0	1	1	0	1	1							0		
0																			
WP	181	F		1	0		1	0									0		
WP	181	M		1	0		1	0									0		
WP	181	P		1	0		1	0									0		
0																			
WP	183	F		0	0	1	1	0	1	1					0		01		
WP	183	M		0	0	1	1	0	1	1					0		01		
WP	183	P		0	0	1	1	0	1	1					0		01		
WP	183	S		0	0	1	1	0	1	1					0		01		
WP	183	S		0	0	1	1	0	1	1					0		01		
WP	183	S		0	0	1	1	0	1	1					0		01		
0																			
WP	182	F		0	0	1	1	0	1	1							0		
WP	182	M		0	0	1	1	0	1	1							0		
WP	182	P		0	0	1	1	0	1	1							0		
WP	182	S		0	0	1	1	0	1	1							0		
WP	182	S		0	0	1	1	0	1	1							0		
WP	182	S		0	0	1	1	0	1	1					0		01		
0																			
WP	185	F		0	0	1	1	0	1	1							0		
WP	185	M		0	0	1	1	0	1	1							0		
WP	185	P		0	0	1	1	0	1	1							0		
WP	185	S		0	0	1	1	0	1	1							0		
WP	185	S		0	0	1	1	0	1	1							0		
0																			
WP	303	F		0	0	1	1	0	1	1							0		
WP	303	M		1	0	1	1	0	1	1						1	21	C	
WP	303	P		1	0	1	1	0	1	1						0	21	C	
WP	303	S		0	0	1	1	0	1	1						1			
WP	303	S		1	0	1	1	0	1	1						0			
WP	303	S		0	0	1	1	0	1	1						0			
WP	303	S		0	0	1	1	0	1	1						1			
WP	303	S		0	0	1	1	0	1	1						0			
0																			
WP	203	F															21		C
WP	203	M															2	C	
WP	203	P															2	C	

STUDY NO. REL

GM

INV HP TF GC

1 2 3 5 6 10 14 15 16 17 21 23
4 12 13

4 12 13

STUDY NO. REL

GM

INV HP TF GC

1 2 3 5 6 10 14 15 16 17 21 23
4 12 13

WP	262	F	2	C
WP	262	M	2	C
WP	262	P	2	C
WP	262	S	2	C
WP	262	S	2	C
WP	262	S	2	C
WP	0			
WP	264	F	21	C
WP	264	M	2	C
WP	264	P	21	C
WP	264	S	21	C
WP	0			
WP	4	F	2	C
WP	4	M	2	C
WP	4	P		C
WP	0			
WP	6	F	21	C
WP	6	M	21	CB
WP	6	P	1	C
WP	6	S	21	C
WP	0			
WP	8	F	2	C
WP	8	M	2	C
WP	8	P	2	C
WP	8	S	2	C
WP	8	S	2	C
WP	0			
WP	25	F	2	C
WP	25	M	2	CB
WP	25	P	2	CB
WP	25	S	2	CB
WP	25	S	2	CB
WP	0			
WP	34	F	2	C
WP	34	M	1	C
WP	34	P	21	C
WP	34	S	21	C
WP	0			
WP	35	F	21	C
WP	35	M	21	C
WP	35	P	21	C
WP	0			
WP	36	F	2	C
WP	36	M	2	C
WP	36	P	2	C
WP	36	S	2	C
WP	36	S	2	C
WP	0			
WP	43	F	2	C
WP	43	M	21	C
WP	43	P	2	C
WP	43	S	2	C
WP	0			
WP	47	M	21	C
WP	47	P	21	C

STUDY NO. REL

GM
1 2 3 5 6 10 14 15 16 17 21 23
4 12 13

INV HP TF GC

STUDY NO. REL

GM

INV HP TF GC

1 2 3 5 6 10 14 15 16 17 21 23
' 4 12 13

INV HP TF GC

1 2 3 5 6 10 14 15 16 17 21 23
4 12 13

[illegible]

B. PORTLAND DATA

POSITIVE OR NEGATIVE ANTIGENIC RESPONSES ARE LISTED FOR THE FOLLOWING TESTS:

ABO	A, B
Rh	C, c
MNSs	M, N
KELL	K, k
DUFFY (:FY)	A, B
KIDD (:JK)	A, B
LUTHERAN (:LU)	A, B
DIEGO (:DI)	A
P	P ₁
LEWIS (:LE)	A, B
SECRETOR	SE
Gm	1, 5

PHENOTYPES AT THE FOLLOWING LOCI ARE ALSO GIVEN:

Tf, Hp, E₂, E₁, Gc, ACP1, AK, GPGD, PGM₁, Lp, PTC TASTING, ADA, Amy2 AND C'3.

FAM IND AB RH MN KL FY JK LU DI P LE SE TF HP E2 E1 GC ACP AK 6P PGM LP GM PTC ADA AMY2 C3

0107	1002	--	++	++	++	+	-	+	+	++	+	CC	21	-	U	BA	11	A	11	++	-		
0107	1003	--	++	++	++	+	+	+	+	++	+	CC	22	-	U	BA	11	A	11	++	+		
0107	0001	--	++	++	++	+	-	+	-	++	+										+		
0109	1000	--	++	++	++	+				+	-	+	11	-	U		11	A	11	++			
0109	1001	+-	++	++	++	-				+	+	-	22	-	U		11	A	11	++			
0109	0001	+-	++	++	++	-				-	+	+	21	+	U		11	A	11	++			
0120	1007																						
0120	1004	--	++	++	++	+	+			+	+	CC	21	-	U	11	B	11	A	22	++	-	
0120	0001	+-	++	++	++	+	+			+	-	CC	21	-	U	21	B	11	A	21	++	-	
0120	0105	+-	++	++	++	+	+			+	+	CC	22	-	U	21	B	11	A	21	++	+	
0126	1002	--	++	++	++	+	+			+	++	CC	11	-	U	BB	11	AA					
0126	1003	+-	++	++	++	+	+			+	++	CC	21	-	U	BA	11	AA					
0126	0001	--	++	++	++	-	+			-	++	CC	21	-	U	BA	11	AA					
0142	1002	--	++	++	++	+	+			+	+	C	21	+	U	11	B	11	A	11	++		AA
0142	1003	+-	++	++	++	+	+			+	-	C	22	-	U	11	BA	11	A	21	++		AA
0142	0001	+-	++	++	++	-	+			+	+	C	21	-	U	21	B	11	A	21	++		
0142	0103	+-	++	++	++	+	+			+	-	C	21	+	U	21	B	11	A	11	++		
0142	0101	+-	++	++	++	+	+			+	-	C	22	-	U	21	B	11	A	11	++		
0142	0100	+-	++	++	++	+	+			-	-	C	21	+	U	21	B	11	A	21	++		
0149	1006	++	++	++	++	++	++	++	++	+	++	C	22	-	U	21	CB	11	A	11	++	+	AA
0149	1007	++	++	++	++	++	++	++	++	+	++	C	21	+	U	CA	11	A	11	++	-	AB	
0149	0001	--	++	++	++	++	++	++	++	+	++	C	22	-	U	21	CB	11	A	11	++	-	AA
0149	0105	++	++	++	++	++	++	++	++	+	++	C	22	+	U	21	BA	11	A	11	++	+	AB
0156	1008	--	++	++	++	+	+	+	+	+	++	C	22	-	U	BA	11	A	21	++			
0156	1004	--	++	++	++	+	+	+	+	+	++	C	21	+	U	BA	11	A	21	++			
0156	0001	--	++	++	++	+	+	+	+	+	++	C	21	-	U	BA	11	A	11	++			
0167	1008	--	++	++	++	+	+	+	+	+	++	C	22	-	U	21		11	A	11	++		
0167	1009	--	++	++	++	-	+	+	+	+	++	C	11	-	A	21	BA	11	A	11	++		
0167	0001	--	++	++	++	++	++	++	++	+	++	C	21	-	1	22	BA	11	A	11	++		
0167	0105	--	++	++	++	-	+	+	+	+	++	C	21	-	A	21		11	A	11	++		
0169	1007	--	++	++	++	-	-			+	++	CC	22	-									
0169	1006	--	++	++	++	+	-			+	++	CC	21	-	U								
0169	0001	--	++	++	++	++	++			+	++	CC	21	-	U								
0183	1009	++	++	++	++	+	-			+	++	C	11	-	U		11	A	21	++		AA	
0183	1010	--	++	++	++	+	+			+	++	C	22	-	U		11	A	21	++		AA	
0183	0001	++	++	++	++	+	-			+	++	C	21	-	U		11	A	11	++			
0183	0104	++	++	++	++	+	-			+	++	C	21	-	U		11	A	11	++			
0183	0105	++	++	++	++	+	-			+	++	C	21	-	U		11	A	21	++			
0183	0106	++	++	++	++	+	-			+	++	C	21	-	U		11	A	21	++			
0183	0107	++	++	++	++	+	+			+	++	C	21	-	U		11	A	21	++			
0190	1015	++	++	++	++	+	+	+	+	+	++	C	21	-	U	21	A	11	A	21	++		AA
0190	1016	++	++	++	++	+	+	+	+	+	++	C	22	-	U	21	A	11	A	11	++		AA
0190	0001	++	++	++	++	-	+	+	+	+	++	C	21	-	U		A	11	A	21	++		
0190	0101	++	++	++	++	+	+	+	+	+	++	C	21	-	U	21	BA	11	A	21	++		

FAM	IND	AB	RH	MN	KL	FY	JK	LU	DI	P	LE	SE	TF	HP	E2	E1	GC	ACP	AK	6P	PGM	LP	GM	PTC	ADA	AMY2	C3
0192	1005	--	++	++	--	+	+	-		+	+-	-	C	21	-	U	11			11	A	21		--			
0192	1006	--	++	--	--	+	+	+	+	+	+-	+	C	22	-	A	21			11	A	11		+-			AA
0192	0001	--	++	--	--	+	+			+	+-	-	C	22	-	U	11			11	A	21		++			AA
0192	0102	--	++	++	--	+	+		+	+	+-	-	C	22	-	A	11			11	A	21		++			AA
0192	0101	--	++	--	--	+	+			+	+-	+	C	22	-	A	21			11	A	21		++			AA
0192	0100	--	++	--	--	-	+			+	--	+	C	22	-	U	21			11	A	11		++			AA
0201	1014	--	++	+-	--	+	-			+	-		C	21	-	U	21			11	A	11		++			AA
0201	1015	+-	++	+-	++	+	+			-	+		C	22	-	U	21			21	A	11		--			
0201	0001	+-	++	+-	--	+	+			+	+		C	22	-	U	21			11	A	11		--			
0201	0105	--	++	+-	++	-	+			+	+		C	21	-	U	11			21	A	11		++			
0201	0106	+-	++	+-	--	+	-			-	-		C	21	-	U	11			11	A	11		--			
0201	0107	--	++	++	--	+	+			+	-		C	22	-	U	21			21	A	11		--			
0201	0108	--	++	+-	--	-	+			-	-		C	22	-	U	21			11	A	11		++			
0205	1000	--	++	--	+	+		++		-			C	11	+	U	21										
0205	1001	--	++	+-	--	--	++	++		-	++	+	C	11	-	U	11	BA		11	A	21		++			AA
0205	0001	--	++	+-	--	--	++	++		+	++	+	C	11	-	U	11	A		11	A	22	-	--			
0205	0100	--	++	+-	--	--	++	++		+	++	+	C	11	-	U	11	B		11	A	21	-	--			
0209	1005	--	++	++	--	+	-			-	+-		CC	11	-	A				*	*			*			
0209	1004	--	++	+-	--	-	-			+	+-		CC	11	-	A											
0209	0001	--	++	+-	--	-	-			-	+-		C	11	-	A											
0212	1000	+-	++	--	--	++	++	-		+	--	+	C	21	-	U		BA		11	A	11		++			AA
0212	1001	--	++	++	--	++	++	-		+	--	+	C	22	-	U		BA		11	A	21		++			AB
0212	0001	++	++	--	--	--	--	-		+	+-	+	C	21	-	A		B		11	A	11					AA
0215	1009	+-	++	--	--	-	+	+		+	-		C	21	-	U	11	BA		21	BA	22		+-			AA
0215	1008	--	++	+-	--	-	+	+		+	-		C	21	-	U	11	BA		11	A	21		--			AA
0215	0001	+-	++	++	--	-	-	+		-	-		C	21	-	U	11	BA		11	BA	22					
0215	0109	--	++	++	--	-	+	+		-	-		C	21	-	U	11	BA		21	BA	21		++			
0224	1003	--	++	--	--		+			+	--		C	21	-	A				11	A						
0224	1002	--	++	+-	--		+			+	--		BC	21	-	U	11			11	A						
0224	0001	--	++	++	--	+				+	--		C	11	-	U				11	A						
0225	1000	+-	++	+-	--	++	++	--		+	+-		C	11	-	U	11			11	A	11		--	-		AA
0225	1001	+-	++	--	--	--	++	--		+	+-		C	21	-	U	21			11	A	21		--	+		AB
0225	0001	+-	++	++	--	++	++			+	+-		C	11	-	U	11			11	A	11		--			AA
0225	0100	+-	++	++	--	++	--			+	+-		C	21	-	U	11			11	A	21		--	+		AB
0225	0101	+-	++	++	--	++	++			+	+-		C	21	-	U	11			11	A	21		--	+		AA
0225	0102	+-	++	++	--	++	++			+	+-		C	11	-	U	21			11	A	21		--	-		AA
0225	0103	+-	++	++	--	++	++			+	+-		C	11	-	U	11			11	A	11		--	-		AA
0235	1007	++	++	++	--	++	++	-		-	+-	-	C	21	-	U				11	A	11		--			AA
0235	1008	--	++	--	--	++	++	--		-	++	+	BC	21	-	U	21	BA		11	A	11		++			AA
0235	0001	+-	++	++	--	++	++	--		-	--	+	BC	11	-	U	11	B		11	A	11		+			
0235	0100	+-	++	--	--	--	++	-		+	-	+	C	21	+	U		A		11	A	11	-	--		11	AA
0235	0101	+-	++	++	--	--	++	-		-	-	+	BC	22	-	U		BA		11	A	11	-	A+		11	AA
0259	1000	--	++	+-	--	++	++	-		+	+-	-	C	11	+	U	11			11	A	11	-	--	-		AB
0259	1001	--	++	--	--	++	++	--		+	+-	-	C	21	-	U	11			11	A	11	+	++	-		AA
0259	0001	--	++	++	--	++	++	-		+	+-	-	C	11	+	U	11			11	A	11	-	--			
0259	0105	--	++	++	--	++	++	-		+	+-		C	11	+	U				11	A	11	+	++			

FAM	IND	AB	RH	MN	KL	FY	JK	LU	DI	P	LE	SE	TF	HP	E2	E1	GC	ACP	AK	6P	PGM	LP	GM	PTC	ADA	AMY2	C3
0259	0103	++	++	++	++	++	++	++	++	+	++	-	C	11	-	U	11		11	A	11	-	++	-			AB
0259	0106	--	++	++	++	++	++	++	++	+	++	-	C	21	-	U	11		11	A	11	-	++	+			AA
0259	0107	++	++	++	++	++	++	++	++	+	++	-	C	11	+	U	11		11	A	11	-	A+			AA	
0259	1000	++	++	++	++	++	++	++	++	+	++	-	C	11	+	U	11		11	A	11	-	++	-			AB
0259	1001	--	++	++	++	++	++	++	++	+	++	-	C	21	-	U	11		11	A	11	+	++	-			AA
0259	0105	++	++	++	++	++	++	++	++	+	++	-	C	11	+	U			11	A	11	+	++				
0259	0001	++	++	++	++	++	++	++	++	+	++	-	C	11	+	U	11		11	A	11	-	++				
0259	0103	++	++	++	++	++	++	++	++	+	++	-	C	11	-	U	11		11	A	11	-	++	-			AB
0259	0106	--	++	++	++	++	++	++	++	+	++	-	C	21	-	U	11		11	A	11	-	++	+			AA
0259	0107	++	++	++	++	++	++	++	++	+	++	-	C	11	+	U	11		11	A	11	-	A+			AA	
0261	1015	--	++	++	++	++	++	++	++	+	++	+	C	21	-	U	22		21	A	11		++				
0261	1016	--	++	++	++	++	++	++	++	+	++	-	C	21	-	U	11		11	A	11		++				
0261	0001	--	++	++	++	++	++	++	++	+	++	+	C	11	-	U	21		11	A	11		++				
0264	1006	--	++	++	++	++	++	++	++	-	++	+	C	22	-	U			11	A	21		++	-			AA
0264	1005	++	++	++	++	++	++	++	++	+	++	-	C	21	+	U			11	A	11		++	-			AB
0264	0001	++	++	++	++	++	++	++	++	+	++	-	C	22	-	U			11	A	11		++				AA
0264	0101	++	++	++	++	++	++	++	++	+	++	-	C	22	+	U			11	A	21		++	-			AB
0264	0102	++	++	++	++	++	++	++	++	+	++	-	C	22	-	U			11	A	11		++	+			AA
0265	1008	++	++	++	++	++	++	++	++	+	++	-	C	22	-	U	11		11	A	11		++	+			AB
0265	1009	++	++	++	++	++	++	++	++	+	++	+	C	21	-	U	12		21	A	21		++	+			AA
0265	0001	++	++	++	++	++	++	++	++	+	++	-	C	21	-	U	11		11	A	11		++				AA
0265	0100	++	++	++	++	++	++	++	++	+	++	-	C	21	-	U	11		11	A	11		++				AA
0269	1003	--	++	++	++	++	++	++	++	+	++	-	C	21	-	U	21	B	11	A	11	+	++	-			
0269	1002	++	++	++	++	++	++	++	++	+	++	-	C	22	-	U	11	BA	11	A	11	+	++	+			
0269	0001	--	++	++	++	++	++	++	++	+	++	-	C	21	-	U	21		11	A	11	+	++				
0272	1003	++	++	++	++	++	++	++	++	+	++	+	C	22	-	U	22		11	A	21	+	++	+			AA
0272	1004	++	++	++	++	++	++	++	++	-	++	+	C	22	-	U	21		11	A	11	+	++	+			AA
0272	0001	++	++	++	++	++	++	++	++	-	++	-	C	22	-	U	22		11	A	11	+	++				
0272	0102	++	++	++	++	++	++	++	++	-	++	+	C	22	-	U	22		11	A	21	+	++	+			
0272	0103	--	++	++	++	++	++	++	++	+	++	-	C	22	-	U	22		11	A	21	+	++	+			
0272	0105	++	++	++	++	++	++	++	++	-	++	+	C	22	-	U	22		11	A	21	+	++	+			
0285	1002	++	++	++	++	++	++	++	++	+	++	-	C	21	-	U	21	BA	11	A	11	+	++	+			AA
0285	1003	++	++	++	++	++	++	++	++	-	++	-	C	21	-	U	22	BA	11	A	21	+	++	+			AA
0285	0001	++	++	++	++	++	++	++	++	+	++	-	C	22	-	U	21	B	11	A	21	-	++				
0288	1015	--	++	++	++	++	++	++	++	-	++	+	BC	21	-	U	21	B	11	A	11	-	++	+			
0288	1017	--	++	++	++	++	++	++	++	+	++	+	C	22	-	U	21	A	11	A	11	+	++	+			
0288	0001	--	++	++	++	++	++	++	++	+	++	+	BC	21	-	U	21	BA	11	A	11	-	++				
0324	1013	++	++	++	++	++	++	++	++	+	++	+	BC	21	+	U	11	BA	11	A	11		++	+			AA
0324	1014	--	++	++	++	++	++	++	++	+	++	+	C	21	-	U	11	BA	21	A	11	+	++	+			AA
0324	0001	++	++	++	++	++	++	++	++	+	++	-	C	21	-	U	11	BA	11	A	11	+	++				
0324	0116	--	++	++	++	++	++	++	++	+	++	+	BC	11	-	U	11	A	21	A	11	-	++	+			
0324	0115	++	++	++	++	++	++	++	++	+	++	+	C	11	-	U	11	BA	11	A	11	+	++	+			
0339	1000	--	++	++	++	++	++	++	++	+	++	-	C	21	-	U	11	CA	11	A	21		++				
0339	1001	++	++	++	++	++	++	++	++	+	++	-	C	22	-	U	21	CB	11	A	11		++				
0339	0001	++	++	++	++	++	++	++	++	-	++	-	C	22	-	U	21	CB	11	A	21		++				

0343	1006	+-	++	++	+-	++	-	+-		-	+-	+	C	21	-	U	11	BA	11	A	21		+-				
0343	1007	+-	+-	++	+-	++	+	+-		+	+-		C	21	-	U	21	CB	11	A	22		+-				
0343	0001	+-	++	++	+-	+-	+	+-		+	+-	+	C	21	-	U	21	BA	11	A	21		+-				
0458	1012																										
0458	1013	--	+-	+-	++	++	+-	-	-	+	+-	+											++				
0458	0001	--	+-	+-	+-	+-	-	-		-	+-												++				
0483	1007												C	11	-	U	21	A		21	A	11		+-			
0483	1008											+	C	22	-	U	11	B		11	A	11		++			
0483	0001	--	+-	++	++	+-	++	-	-	+	+-		C	21	-	U	11	BA		21	A	11	+	A+		11	
0498	1009	+-	+-	++	+-	++	+-	+		+	+-		C	22	-	U	11			11	A	11	+			AA	
0498	1010	--	++	++	+-	+-	+-	+-		+	+-		C	21	-	U	11			11	A	21	+				
0498	0001	--	++	++	+-	+-	++	+-		+	++		C	21	-	U	11			11	A	21	+				
0506	1001	++	++	+-	+-	+-	+	-		-	+-	+	C	22	-	U	21	B		11	A	11	++	-		AA	
0506	1000	--	+-	+-	+-	+-	+	-		+	+-	+	C	21	-	U	11	B		11	A	11	++			AA	
0506	0001	+-	+-	+-	+-	+-	+	-		-	+-	+	C	22	-	U	11	B		11	A	11	+-				
0506	0100	+-	++	+-	+-	+-	+	-		+	+-	+	C	21	-	U	11	B		11	A	11	+-	+			
0506	0102	+-	++	+-	+-	+-	+	-		+	+-	-	C	22	-	U	21	B		11	A	11	++	+			
0506	0101	+-	++	+-	+-	+-	+	-		+	+-	-	C	21	-	U	11	B		11	A	11	+-	-			
0506	0103	+-	+-	+-	+-	+-	-	-		-	+-	-	C	21	-	U	11	B		11	A	11	++	+			
0506	0104	+-	++	+-	+-	+-	+	-		-	+-		C	21	-	U	21	B		11	A	21	++				
0515	1002																										
0515	1003	+-	+-	+-	+-	+-	+-	-		-	+-	+	C	22	-	U	11	CB		11	A	11	+-	+		AA	
0515	0001	+-	+-	+-	+-	++	+-			-	++	+	C	22	-	U	11	B		11	A	11	+	+-	+		
0515	0103	+-	+-	+-	+-	++	+-			-	+-	+	C	22	-	A	11	B		11	A	11	++	-			
0515	0104	--	+-	+-	+-	++	+-			-	+-	+	C	22	-	A	11	B		11	A	11	++	+			
0515	0105	+-	+-	+-	+-	++	+-			-	+-	+	C	22	-	U	11	B		11	A	11	++	-			
0515	0106	++	+-	+-	+-	++	++			-	+-	+	C	22	-	U	11	B		11	A	11	+-	+			
0515	0107	+-	+-	+-	+-	++	+-			-	+-	+	C	22	-	A	11	B		11	A	11		-			
0515	0108	--	+-	+-	+-	++	+-			-	+-	+	C	22	-	A	11	B		11	A	11	++	+			
0515	0109	++	+-	+-	+-	++	++			-	+-	+	C	22	-	U	11	B		11	A	11	+-	+			
0515	0110	+-	+-	+-	+-	++	++			-	+-	+	C	22	-	U	11	CB		11	A	11	++	+			
0517	1008	--	++	+-	+-	++	+-	+	-	+	+-	+	C	21	+	U	22	CB		11	A	11	-	+-	+		AB
0517	1009	--	+-	+-	+-	++	++	-	-	+	+-	-	C	21	-	A	21	B		11	A	22	+	++	+		AA
0517	0001	--	++	+-	+-	++	++	+-	-	+	+-	+	C	22	-	A	22	B		11	A	21	-	++			AB
0517	0105	--	++	+-	+-	++	++	+-	-	+	+-	+	C	22	-	A	21	B		11	A	21	-	+-			AA
0517	0106	--	+-	+-	+-	++	+-	++	-	+	+-	+	C	22	-	U	22	CB		11	A	21	+	+-	+		AB
0517	0107	--	++	+-	+-	++	+-	+-	-	+	+-	+	C	22	-	U	21	B		11	A	21	+	++	+		AB
0530	1004	++	++	++	-	+-	+-	-		+	+-	+	C	21	+	U	11	B		11	A	21	+-			AA	
0530	1005	--	+-	+-	-	+-	+-	-		+	+-	-	C	21	-	U	21	A		11	A	11	++			AA	
0530	0001	+-	++	+-	-	+-	+-	-		+	+-	+	C	11	+	U	11	BA		11	A	21	++				
0530	0106	+-	++	+-	-	+-	+-	-		+	+-	+	C	22	+	U		BA		11	A	11	++				
0530	0105	+-	++	+-	-	+-	+-	-		+	+-	+	C	11	-	U	11	BA		11	A	21	++				
0530	0104	+-	++	+-	-	+-	+-	-		+	+-	+	C	21	-	U		BA		11	A	11	++				
0533	1004	--	+-	+-	+-	+-	+-	-		+	+-	+	C	21	-	U	22	B		11	A	11	++			AA	
0533	0109	--	++	+-	+-	++	+-	-		-	+-		C	21	-	U	22	B		21	A	11	++				
0533	0001	--	++	+-	+-	+-	+-	-		+	+-	-	C	22	-	U	22	B		21	A	11	A+				

FAM IND AB RH MN KL FY JK LU DI P LE SE TF HP E2 E1 GC ACP AK 6P PGM LP GM PTC ADA AMY2 C3

0534	1008	+-	++	++	++	++	++	-		+	++	+	C	22	-	U	11	B	11	A	22		++		AA
0534	1007	+-	++	++	++	++	++	-		+	++		C	22	-	A	21	B	21	A	21		++		AA
0534	0001	+-	++	++	++	++	++	-		+	++	+	C	22	-	U	11	B	11	A	21		++		
0534	0105	+-	++	++	++	++	++	-		+	++	+	C	22	-	A	21	B	21	A	22		++		

0547	1009																								
0547	1008	++	++	++	++	++	++	-		+	++		C	22	+	U	11	BA	11	A	11		++		
0547	0001	+-	++	++	++	++	++	-		+	++		C	22	-	U	11	A	21	A	21		++		
0547	0102	+-	++	++	++	++	++	-		-	++	+	C	22	+	U	21	BA	11	A	11		++		
0547	0100	+-	++	++	++	++	++	-		-	++	+	C	22	-	U	11	A	21	A	11		++		

0548	1037	--	++	++	++	++	++	+		-	++	-	C	22	-	U	21	A	11	A	21		++		AA
0548	1038	--	++	++	++	++	++	-		+	++	+	C	22	-	U	21	CA	11	A	11		++		AA
0548	0001	--	++	++	++	++	++	-		-	++	-	C	22	-	U	21	CA	11	A	11		++		
0548	0110	--	++	++	++	++	++	-		-	++	-	C	22	-	U	21	CA	11	A	11		++		

0550	1017	++	++	++	++	++	++	-		+	++	+	C	22	+	U	11	CB	11	A	11		++		AA
0550	1016	--	++	++	++	++	++	-		+	++	+	C	11	-	U		B	11	A	22		++		AA
0550	0001	+-	++	++	++	++	++	-		+	++	+	C	21	+	U		B	11	A	21		++		
0550	0108	+-	++	++	++	++	++	-		+	++	+	C	21	+	U	11	B	11	A	21		++		
0550	0110	+-	++	++	++	++	++	-		+	++	+	C	21	+	U	11	CB	11	A	21		++		
0550	0111	+-	++	++	++	++	++	-		-	++	+	C	21	-	U	11	CB	11	A	21		++		
0550	0113	+-	++	++	++	++	++	-		+	++	+	C	21	-	U	11	CB	11	A	21		++		

0573	1000	--	++	++	++	++	++	++		+	++	-	D	11	-	U	22	B	11	A	21		AA		
0573	1001	--	++	++	++	++	++	++		+	++	-	C	21	-	U	11	BA	11	A	21		++		
0573	0001	--	++	++	++	++	++	-		+	++	-	CD	11	-	U	21	B	11	A	21		++		
0573	0102	--	++	++	++	++	++	-		+	++	-	CD	22	-	U	21	B	11	A	11		++		
0573	0103	--	++	++	++	++	++	+		+	++	-	CD	11	-	U	21	BA	11	A	21		++		
0573	0104	--	++	++	++	++	++	+		+	++	-	CD	22	-	U	21	BA	11	A	21		++		
0573	0105	--	++	++	++	++	++	+		+	++	-	CD	22	-	U	21	BA	11	A	22		++		
0573	0106	--	++	++	++	++	++	+		+	++	-	CD	21	-	U	21	B	11	A	21		++		

0645	1008	--	++	++	++	++	++	-		+	++	+	C	22	-	U	11	B	11	A	11		++		
0645	1009	+-	++	++	++	++	++	-		+	++	+	C	21	-	U	21	BA	11	A	21		+		
0645	0001	+-	++	++	++	++	++	-		+	++	+	C	21	+	U	11	B	11	A	11		++		

0690	1012	--	++	++	++	++	++	-		-	++	+	C	22	-	U	11	B	11	A	21	+	++		AA
0690	1013	--	++	++	++	++	++	-		+	++	+	C	22	-	U	21	BA	11	A	21	-	++		AA
0690	0001	--	++	++	++	++	++	-		-	++	+	C	22	-	U	11	B	11	A	22		++		
0690	0108	--	++	++	++	++	++	-		+	++	+	C	22	-	U	21	B	11	A	21	-	++		
0690	0100	--	++	++	++	++	++	-		-	++	+	C	22	-	U	11	B	11	AB	21	+	++		
0690	0102	--	++	++	++	++	++	-		-	++	+	C	22	-	U	11	B	11	A	11	+	++		
0690	0104	--	++	++	++	++	++	-		-	++	+	C	22	-	U	21	BA	11	A	11	+	++		AA
0690	0106	--	++	++	++	++	++	-		-	++	+	C	22	-	U	11	A	11	A	22	+	++		
0690	0109	--	++	++	++	++	++	-		+	++	+	C	22	-	U	11	B	11	A	22	+	++		
0690	0107	--	++	++	++	++	++	-		-	++	+	C	22	-	U	21	A	11	A	21	+	++		
0690	0105	--	++	++	++	++	++	-		-	++	+	C	22	-	U	21	BA	11	A	21	+	++		
0690	0103	--	++	++	++	++	++	-		-	++	+	C	22	-	U	11	BA	11	A	21	+	++		
0690	0101	--	++	++	++	++	++	-		+	++	+	C	22	-	U	11	B	11	A	21	+	++		

0709	1009																								
0709	1010	+-	++	++	++	++	++	++		+	++	+	C	22	-	U	11	B	11	A	11	+	++		
0709	0001	+-	++	++	++	++	++	++		+	++		C	21	-	U	11	BA	11	A	11	+	++		

FAM IND AB RH MN KL FY JK LU DI P LE SE TF HP E2 E1 GC ACP AK 6P PGM LP GM PTC ADA AMY2 C3

0709	0101	+-	+-	++	+-	+-	++		+	+-	+		C 22	-	U 11	B	11	A 11	-	++				
0718	1016	+-	++	+-	+-	+-	++	-	+	+-	+		C 21	-	U 11	BA	21	A 21	+	+-			AB	
0718	1017	+-	++	+-	+-	+-	+-	-	+	+-			C 11	-	U 21	CA	11	A 11	-	++			AA	
0718	0001	++	+-	++	+-	+-	+-	-	+	+-			C 11	-	U 11	CA	11	A 21	+	++			AA	
0719	1003	+-	+-	+-	+-	+-	++	-	-	+-	+		C 21	-	U 11	B	11	A 22	+	++				
0719	1004	+-	+-	++	+-	++	+-	-	+	+-	+		C 22	-	U 11	B	11	A 21	+	+-				
0719	0001	+-	++	+-	+-	++	++	-	-	++	+		C 22	-	U 11	B	11	A 21	+	+-				
0725	1003	+-	++	+-	+-	+-	++		+	+-	+		C 21	-	U 11	BA	11	A 11	+	++			AB	
0725	1004	+-	++	++	+-	+-	++	-	+	+-	-		C 21	-	U 21	B	11	A 11	-	+-			AB	
0725	0001	+-	+-	+-	+-	++	++	-	+	+-	-		C 21	-	U	B	11	A 11	+	+-			AA	
0845	1006	+-	++	++	+-	++	+-	-	+	+-	-		C B	-	U 11	B	11	A 21	+	+-				
0845	1007	+-	++	+-	+-	+-	++	-	+	+-	+		C 21	-	U 21	BA	11	A 11	-	++				
0845	0001	+-	+-	++	+-	+-	++	-	+	+-	-		C 21	-	U	11 B	11	A 21	+	++				
0845	0108	+-	++	++	+-	++	+-	-	+	+-	+		C 22	-	U 11	B	11	A 21	+	++				
0845	0107	+-	++	++	+-	++	++	-	-	+-	+		C 21	-	U 11	BA	11	A 11	+	+-				
0898	1000	+-	+-	++	+-	+-	+-	-	-	+-	+		C 11	-	U 11	BA	21	A 11	+	+-			AA	
0898	1001	+-	+-	++	+-	++	++	-	-	+-	+		C 22	-	U 22	B	11	A 11	+	+-			AB	
0898	0001	+-	+-	+-	+-	++	+-	-	-	+-	+		C 21	-	U 21	BA	11	A 11	+	+-			AB	
0898	0112	+-	+-	++	+-	+-	+-	-	-	+-	+		C 21	-	U 21	B	21	A 11	+	+-			AA	
0898	0113	+-	+-	+-	+-	++	+-	-	-	+-	+		C 21	-	U 21	BA	11	A 11		+-			AB	
0992	1008	+-	+-	+-	+-	+-	+-	-	-	+-	+		C 21	-	U 11	BA	11	A 11	+	++		11	AA	
0992	1009	+-	+-	+-	+-	++	++	-	-	+-	-		C 22	-	U 21	BA	11	A 11	+	++		21	AA	
0992	0001	+-	++	+-	+-	++	+-	-	-	+-	-		C 21	-	U 11	B	11	A 11	+	++		21		
0992	0106	+-	++	+-	+-	++	++	-	-	+-	-		C 22	-	U 11	B	11	A 11	+	++		21		
0992	0107	+-	++	+-	+-	++	++	-	-	+-	-		C 22	-	U 21	BA	11	A 11	+	++		21		
0998	1000	+-	++	+-	+-	+-	++	-	-	+-	+		C 21	-	U 11	B	21	A 21	+	+			AA	
0998	1001	+-	++	++	+-	++	+-	-	-	+-	-		C 21	-	U 21	BA	21	A 11	+	+-			AA	
0998	0001	+-	+-	+-	+-	+-	+-	-	-	+-	+		C 11	-	U 21	BA	11	A 21	+	+-				
1125	1000	+-	+-	+-	+-	++	+-	++	-	+-	+		C 22	-	U 21	A	11	A 21	-	+-			AA	
1125	1001	+-	++	++	+-	+-	++	+-	-	+-	+		C 22	-	U 11	BA	11	A 22	+	+-			AA	
1125	0001	+-	+-	++	+-	++	+	+	-	+-	-		C 22	+	U 11	BA	11	A 21	-	-				
1125	0100	+-	++	+-	+-	++	+-	++	-	++	+		C 22	-	U 11	A	11	A 22	-	+-				
1185	1008	+-	++	+-	+-	++	+-	-	-	+-	+		C 22	-	U 21	BA	11	A 11	-	+-	+		AB	
1185	1009	+-	++	++	+-	++	++	+-	-	+-	+		C 21	-	U 21	BA	11	A 21	-	++	+		AA	
1185	0001	+-	++	+-	+-	++	++	-	-	+-			C 21	-	U 22	A	11	A 21	-	++			AA	
1206	1006	+-	+-	++	+-	++	++	+	-	+-	-		C 22	+	U 21	BA	11	A 11	+	+-			AA	SS
1206	1005	+-	+-	++	+-	+-	+-	-	-	+-	+		C 21	-	U 11	B	11	A 11	+	+-			AA	FS
1206	0001	+-	+-	+-	+-	++	+	-	-	++	+		C 21	+	U 11	BA	11	A 11	-	++				FS
1206	0103	+-	+-	++	+-	++	+-	-	-	+-	-		C 21	+	U 11	B	11	A 11	+	++				FS
1206	0101	+-	+-	+-	+-	++	-	-	-	+-	+		C 21	+	U 21	BA	11	A 11	-	++				FS
1210	1016	++	++	+-	+-	+-	+-	-	-	+-	+		C 22	-	U 11	B	11	A 21	-	++	+			
1210	1017	+-	+-	+-	+-	+-	+-	-	-	+-	-		C 21	-	U 21	BA	11	A 11	-	++	+			
1210	0001	+-	+-	+-	+-	+-	+-	-	-	++	+		C 22	+	U 11	BA	11	A 21	-	++				

FAM	IND	AB	RH	MN	KL	FY	JK	LU	DI	P	LE	SE	TF	HP	E2	E1	GC	ACP	AK	6P	PGM	LP	GM	PTC	ADA	AMY2	C3
1262	1006	+-	++	+-	++	++	+-	-	-	+	+	-	C	21	-	U	11	B	11	A	11	+	++	-		AA	SS
1262	1007	--	++	++	++	++	++	-	-	+	++	+	C	21	-	U	21	B	11	A	11	+	++	-		AA	FS
1262	0001	--	++	++	++	++	+-	-	-	-	+	-	C	21	-	U	21	B	11	A	11	+	A+	-			
1262	0112	+-	++	+-	++	++	+-	-	-	+	+	-	C	21	-	U	21	B	11	A	11	-	++	-			FS
1262	0113																										
1343	1003	--	++	+-	++	+-	++	-		+	++	+	C	21	-	U	11	B	11	A	21	-	++	-			
1343	1002	+-	++	+-	++	++	+-	-		+	++	+	C	22	-	U		B	11	A	11	-	++	+			
1343	0001												C	B	-	U		B	11	A	11	-	++				
1372	1013											+	C	22	-	U	21	B	11	A	22	+	++	+		AA	
1372	1000	--	++	++	++	++	+	-		-	++	+	C	22	-	A	11	B	11	A	11	+	++	-		AA	
1372	0001	--	++	+-	++	++	+	-		-	++	+	C	22	+	U	21	B	11	A	21	-					
1400	1001	+-	++	++	++	++	++	-		-	++	+	BC	21	+	U		BA	11	A	21	-	++			AA	
1400	1002	--	++	++	++	++	++	+		+	++	-	C	22	-	U	21	BA	11	A	11	+	++			AA	
1400	0001	--	++	+-	++	++	++	+		+	++	-	BC	21	-	U	11	BA	11	A	21	-	++				
1408	1006	--	++	++	++	++	++	-		+	++	+	C	21	-	U	11	BA	11	A	11	-	++	+		AA	
1408	1005	+-	++	+-	++	++	++	-		+	-	+	C	22	-	U	21	A	11	A	21	-	++	-		AA	
1408	0001	+-	++	++	++	++	+-	-		+	+					U		BA	11	A	21	+		+			
1408	0104	--	++	++	++	++	++	-		+	++	+	C	21	-	U	21	A	11	A	11	-	++	+			
1513	1002	+-	++	+-	++	++	+-	-		+	++	+	C	22	-	U		B	11	A	21	+	++	-		AA	
1513	1004	--	++	++	++	++	++	-		+	++	+	C	22	-	U		CA	11	A	11	+	++	+		AA	
1513	0001	+-	++	+-	++	++	+-	-		+	++		C	22	-	U		CB	11	A	11	-	++				
1673	1004	+-	++	++	++	++	++	++		+	-	+	C	22	-		11	BA	21	A	21	+	++	-	11	AA	
1673	1005	++	++	++	++	++	++	-		+	-	+	C	11	-		21	B	11	A	11	+	A+	-	11	AA	
1673	0001	++	++	++	++	++	++	++		+	+	+	C	21	-		11	BA	11	A	21	-	++		11		
1673	0102	+-	++	++	++	++	++	++		+	++	+	C	21	-		11	B	21	A	21	+	++	-	11		
1709	1000	--	++	++	++	++	++	-		+	++	+	C	21	-	U	11	BA	11	A	11	-	++	+	11	AA	
1709	1001	+-	++	+-	++	++	+-	-		+	++	+	C	22	-	U	11	A	21	A	21	-	++	-	11	AA	SS
1709	0001	--	++	+-	++	++	+-	-		+	++		C	22	-	U	11	BA	11		11	-			11		
1709	0100	--	++	+-	++	++	+-	-		+	++	+	C	22	-	U	11	A	11	A	21	-	+		11		
1715	1002	+-	++	++	++	++	+-	-		+	++	+	C	11	-	U	11	BA	21	A	11	+	++	-	11	AA	SS
1715	1003	+-	++	++	++	++	+-	++		+	++	+	C	21	+	A	11	CB	11	A	21	-	++	+	11	AA	SS
1715	0001	+-	++	+-	++	++	+-	-		+	++	+	C	21	-	A	11	CB	21	A	21	+	++	-	11		
1715	0107	--	++	+-	++	++	+-	++		+	++	+	C	11	-	A	11	CA	11	A	11	+	++	-	11		
1869	1002																										
1869	1003	--	++	++	++	++	++	-		+	-	+	C	22	-	U	11	BA	11	A	21	-	++		21	AA	
1869	0001	--	++	++	++	++	++	-		+	+	-	C	22	-	U	21	BA	11	A	11	-	++		21	AA	
1927	1000	--	++	++	++	++	++	++		+	-	+	C	21	-		21	BA	11	A	11	+	++	-	11	AA	FS
1927	1001	--	++	++	++	++	++	++		+	+	-	C	21	-	U	21	B	11	A	22	-	++	+	11	AA	FF
1927	0001	--	++	++	++	++	++	++		+	-	+	C	11	-	U	21	B	11	A	11	-	++	-	11	AA	FS
1927	0100	--	++	++	++	++	++	++		+	-	+	C	21	-	U	22	BA	11	A	21	-	++	-	11	AA	FF
1927	0101	--	++	++	++	++	++	++		+	-	+	C	11	-	U	11	B	11	A	21	+	++	-	11	AA	FF
1927	0102	--	++	++	++	++	++	++		+	-	+	C	21	-	U	21	BA	11	A	11	-	++	-	11	AA	FF
1927	0103	--	++	++	++	++	++	++		+	-	+	C	21	-	U	21	B	11	A	21	+	++	-	11	AA	FS
1927	0104	--	++	++	++	++	++	++		+	-	+	C	21	-	U	21	B	11	A	21	-	++	-	11	AA	FF
1927	0105	--	++	++	++	++	++	++		+	-	+	C	21	-	U	21	BA	11	A	21	-	++	-	11	AA	FS

FAM IND AB RH MN KL FY JK LU DI P LE SE TF HP E2 E1 GC ACP AK 6P PGM LP GM PTC ADA AMY2 C3

2322	1000	+-	+-	++	-+	++	-	-	-	-	+	C	22	-	U	B	11	A	21	+	+	11	SS
2322	1001	+-	++	+-	-+	++	+	-	+	+	-	C	21	-	U	CB	11	A	11	+	+	11	SS
2322	0001	+-	++	++	-+	+-	-	-	+	+	+	C	B	-	U	CB	11	A	21	+		11	SS
2322	0100	+-	++	++	-+	+-	+	-	+	+	-	C	22	-	U	CB	11	A	11	+	+	11	SS
2322	0101	-	++	++	-+	-+	-	-	+	+	-	C	22	-	U	B	11	A	11	+	+	11	SS
2322	0102	+-	++	++	-+	-+	+	-	+	+	-	C	22	-	U	B	11	A	21	+	+	11	SS
2322	0103	+-	+-	+-	-+	+-	+	-	+	-	+	C	21	-	U	CB	11	A	21	+		11	SS

C. INDIANAPOLIS DATA

THESE ARE CODED ACCORDING TO THE INSTRUCTIONS GIVEN IN SECTION B-3 OF CHAPTER III. THE FOUR FIRST SHEETS BELOW WERE PUNCHED ON CARD 1 (SEE PAGE 53 OF CHAPTER III), WHILE THE LAST TWO CARRY INFORMATION ON SOME OF THE FAMILIES WHO ALSO HAD CARD 2.

CARD STUDY KIN INDIV PAT MAT RACE S P BO DOB DOT ABO MNSZ P RH KELL LU FY JK XG LE DO SC CO YT DI MARKER

[illegible]

CARD STUDY KIN INDIV PAT MAT RACE S P BO DOB DOT ABO MNSZ P RH KELL LU FY JK XG LE DO SC CO YT DI MARKER

1	21	SIM	A001	M	42	0867	101	1010	1	0101	01	1	
1	21	SIM	A002	F	44	0867	010	1111	1	1101	01	0	
1	21	SIM	B001 A001 A002	M	67	0867	111	1111	1	0101	01	1	
1	21	GAM	A001	M	36	0670	000	0101 0	1	1111	01	1	
1	21	GAM	A002	F	38	0670	000	1001 1	0	1001	01	1	
1	21	GAM	B001 A001 A002	M	68	0670	000	1101 0	0	1111	01	1	
1	21	BRI	A001	M	38	0867	000	1001	0	1001	11	0	
1	21	BRI	A002	F	35	0867	000	1011	1	0101	01	1	
1	21	BRI	B001 A001 A002	F	64	0867	000	1001	1	1001	01	1	
1	21	WIL	A001	M	13	0867	000	1011	0	1001	01	1	
1	21	WIL	A002	F	22	0867	101	1001	0	1111	01	1	
1	21	WIL	B001 A001 A002	F	59	0867	000	1001	0	1001	01	1	
1	21	MCG	A001	M	0217	0666	101	0101 0	1	1101	01	1	11
1	21	MCG	A002	F	1043	0666	000	1101 1	1	1101	01	0	01
1	21	MCG	B001 A001 A002	M	0466	0666	000	1101 0	0	1101	01	1	11
1	21	SHO	A001	M	0309	0666	000	1001 1	1	0101	01	1	11
1	21	SHO	A002	F	0719	0666	100	1011 0	0	1111	11	0	11
1	21	SHO	B001 A001 A002	F	1040	0666	100	1011 0	1	1111	01	1	10
1	21	NIV	A001	M									
1	21	NIV	A002	F	1041	0964	000	0101 0	1	0101	0101	0	
1	21	NIV	B001 A001 A002	M	0362	0964	000	0101 0	1	0101	0101	0	
1	21	WAR	A001	M	0333	0467	000	1101	1	1111	01	1	
1	21	WAR	A002	F	0231	0467	101	1001	1	1101	01	1	
1	21	WAR	B001 A001 A002	M	0367	0467	101	1101	1	1101	01	1	
1	21	CRU	A001	M	0715	0964	101	1101 1	1	1101	0101	1	
1	21	CRU	A002	F	1118	0964	000	1111 1	0	1001	0101	1	
1	21	CRU	B001 A001 A002	F	0564	0964	101	1111 1	1	1101	0101	1	
1	21	PEA	A001	M	44	1266	101	1101 1	0	1001	01	0	1
1	21	PEA	A002	F	45	1266	010	1111 1	1	1111	01	1	01
1	21	PEA	B001 A001 A002	M	65	1266	111	1011 1	1	1101	01	0	01
1	21	LUT	A001	M	42	0966	000	1110 1	0	1001	01	0	10
1	21	LUT	A002	F	44	0966	000	1111 1	0	1001	01	0	11
1	21	LUT	B001 A001 A002	F	66	0966	000	1110 1	0	1001	01	0	10
1	21	MAY	A001	M	36	0867	000	1111	1	1101	01	1	
1	21	MAY	A002	F	37	0867	101	1111	1	1111	01	0	
1	21	MAY	B001 A001 A002	M	62	0867	101	1011	0	1111	01	1	
1	21	SWA	A001	M	35	0268	101	1011	1	1101	01	1	
1	21	SWA	A002	F	37	0268	101	1101	0				

CARD STUDY KIN INDIV PAT MAT RACE S P BO DOB DOT ABO MNSZ P RH KELL LU FY JK XG LE DO SC CO YT DI MARKER

```
1  21  DEC  A002      F      46  0967  100  0101      0  1111  01      1
```

```
1  21  DEC B001 A001 A002      M      67 0967 100 0101      1 1111 01      1
```

NAME	INDIV	ACP1	PGM1	HP
GAG	A001	B	21	21
GAG	A002	BA	1	21
GAG	B001	BA	21	1
CON	A001	BA	1	2
CON	A002	B	1	2
CON	B001	BA	1	2
WIL	A001	CA	1	21
WIL	A002	CA	1	21
WIL	B001	A	1	1
HEL	A001	BA	21	2
HEL	A002	BA	1	21
HEL	B001	BA	1	21
HIL	A001	B	1	2
HIL	A002	BA	2	2
HIL	B001		21	2
MIL	A001	B	1	21
MIL	A002	B	1	2
MIL	B001			
WIL	A001	B	1	21
WIL	A002	CB	21	21
WIL	B001	B	1	1
MUR	A001	B	21	21
MUR	A002	B	21	2
MUR	B001	B	1	2
UND	A001	BA	21	2
UND	A002	B	1	21
UND	B001		1	21
BEL	A001	BA	1	2
BEL	A002	B	1	2
BEL	B001			2
WHA	A001	BA	1	21
WHA	A002	B	21	21
WHA	B001	BA	1	21
HEW	A001	BA	1	21
HEW	A002	BA	1	1
HEW	B001	BA	1	21
GOO	A001	BA	1	1
GOO	A002	A	21	21
GOO	B001	BA	1	21
CAU	A001	BA	21	1
CAU	A002	B	1	21
CAU	B001	BA	1	1

NAME	IND IV	ACP1	PGM1	HP
DOT	A001	B	1	21
DOT	A002	A	21	2
DOT	B001	BA	1	21
BUN	A001	B	1	21
BUN	A002	A	21	2
BUN	B001			2
SIM	A001	B	1	2
SIM	A002	B	1	1
SIM	B001	B	1	
BRI	A001	BA	1	21
BRI	A002	B	1	2
BRI	B001	B	1	
WIL	A001	B	1	21
WIL	A002	B	1	21
WIL	B001	B	1	1
PEA	A001			2
PEA	A002			2
PEA	B001			2
LUT	A001			21
LUT	A002			21
LUT	B001			21
MAY	A001	BA	2	
MAY	A002	BA	1	21
MAY	B001			21
SWA	A001	BA	1	21
SWA	A002	B	21	1
SWA	B001	B	21	21
MID	A001	BA	1	2
MID	A002	A	1	21
MID	B001		1	21
STO	A001	BA	1	2
STO	A002	BA	21	21
STO	B001	BA	1	2
DEC	A001	B	1	2
DEC	A002	BA	21	21
DEC	B001	B	1	

D. GLASGOW DATA

DATA CODED ACCORDING TO THE INSTRUCTIONS GIVEN IN
SECTION B-3 OF CHAPTER III ON CARDS 1, 2 AND 3.

CARD STUDY KIN INDIV PAT MAT RACE S P BO DOB DOT ABO MNSZ P RH KELL LU FY JK XG LE DO SC CO YT DI MARKER

Line	Code	Description	Unit	Material	Quantity	Price	Total
1	21	FIN A001			000	0101 0	0 1001 0
1	21	FIN A002			000	1111 1	1 1101 1
1	21	FIN B001 A001 A002	P		000	0101 0	0 1001 1
1	21	ROA A001			101	1111 0	1 1101 1
1	21	ROA A002			000	1010 1	0 1111 0
1	21	ROA B001 A001 A002	P		000	1111 1	0 1001 1
1	21	BEC A001			000	1101 0	0 1110 0
1	21	BEC A002			100	1011 1	1 1101 0
1	21	BEC B001 A001 A002	P		100	1101 0	0 1111 0
1	21	TUR A001			000	1101 0	1 0101 0
1	21	TUR A002			000	1111 1	1 1101 0
1	21	TUR B001 A001 A002	P		000	1111 1	1 0101 0
1	21	GRI A001			000	0111 1	110101 0
1	21	GRI A002			000	1111 1	0 1001 0
1	21	GRI B001 A001 A002	P		000	0111 1	1 1101 0
1	21	HAM A001			101	1101 1	1 1111 0
1	21	HAM A002			101	1101 0	1 1111 0
1	21	HAM B001 A001 A002	P		101	1101 0	1 1111 0
1	21	BIS A001			100	1111 0	1 0101 0
1	21	BIS A002			000	1111 1	1 1101 0
1	21	BIS B001 A001 A002	P		000	1010 0	1 0101 0
1	21	MCK A001			100	1111 0	0 1111 0
1	21	MCK A002			010	1101 1	1 0101 0
1	21	MCK B001 A001 A002	P		010	1101 0	1 1111 0
1	21	KEL A001			000	1110 1	1 0101 0
1	21	KEL A002			000	1101 1	0 1001 0
1	21	KEL B001 A001 A002	P		000	1011 1	1 1101 0
1	21	STI A001			000	1111 1	1 0101 0
1	21	STI A002			000	1111 0	1 1111 0
1	21	STI B001 A001 A002	P		000	1110 0	1 0101 0
1	21	DIL A001			101	1111 1	1 0101 0
1	21	DIL A002			000	1110 0	1 0101 0
1	21	DIL B001 A001 A002	P		101	1110 0	1 0101 0
1	21	WAL A001			000	1111 1	1 0101 0
1	21	WAL A002			000	1101 1	1 1111 0
1	21	WAL B001 A001 A002	P		000	1111 0	1 1111 0
1	21	HAR A001			000	1111 0	1 0101 0
1	21	HAR A002			101	1101 1	1 0101 0
1	21	HAR B001 A001 A002	P		100	1011 0	1 0101 0
1	21	MCC A001			000	0101 1	1 0101 0
1	21	MCC A002			101	1011 1	1 1111 0
1	21	MCC B001 A001 A002	P		000	1101 1	1 1111 0
1	21	CAM A001			000	1011 1	0 1110 0
1	21	CAM A002			101	1011 0	1 1101 0
1	21	CAM B001 A001 A002	P				
1	21	KEL A001			000	1101 0	1 1101 0
1	21	KEL A002			000	1111 1	1 1101 0
1	21	KEL B001 A001 A002	P		000	0101 1	1 1101 0
1	21	DAV A001			101	1101 0	0 1001 0
1	21	DAV A002			000	1111 0	0 1001 0
1	21	DAV B001 A001 A002	P		000	1101 0	0 1001 0
1	21	MCD A001			000	1001 1	1 1111 1
1	21	MCD A002			100	1111 1	0 1001 1
1	21	MCD B001 A001 A002	P		100	1011 0	1 1101 0
1	21	LOC A001			100	1010 1	1 0101 0
1	21	LOC A002			010	1110 1	1 1101 0

CARD STUDY KIN INDIV PAT MAT RACE S P BO DOB DOT ABO MNSZ P RH KELL LU FY JK XG LE DO SC CO YT DI MARKER

1	21	LOC	B001	A001	A002		P		010	1110	0	1	0101	0	0	0		0
1	21	JOH	A001						000	1111	0	1	1111	0	0	1		1
1	21	JOH	A002						101	0101	1	1	0101	0	0	0		0
1	21	JOH	B001	A001	A002		P		000	1111	0	1	1111	0	0	1		0
1	21	MKE	A001						010	1101	0	1	1101	0	0	1		0
1	21	MKE	A002						010	1011		0	1111	0	0	1		0
1	21	MKE	B001	A001	A002		P		010	1001	0	1	1111	0	0	1		0
1	21	MKA	A001						000	1111	1	1	1111	0	0	1		1
1	21	MKA	A002						010	1111	0	0	1111	0	0	1		0
1	21	MKA	B001	A001	A002		P		000	1111	1	1	1111	0	0	1		0
1	21	CRA	A001						000	0101	1	1	0101	0	0	0		0
1	21	CRA	A002						101	0111	0	0	1001	0	0	0		0
1	21	CRA	B001	A001	A002		P		100	0101	0	1	1101	0	0	0		0
1	21	BRO	A001						000	1011	1	1	0101	0	0	1		0
1	21	BRO	A002						000	1111	1	1	1101	0	0	1		0
1	21	BRO	B001	A001	A002		P		000	1111	1	1	1101	0	0	1		0
1	21	BAR	A001						000	0101	1	1	1101	0	0	0	1	0
1	21	BAR	A002						000	0101	0	1	1101	0	0	0	1	0
1	21	BAR	B001	A001	A002		P		000	0101	0	1	0101	0	0	0	1	0
1	21	HOW	A001						010	1101	0	0	1101	0		1	0	0
1	21	HOW	A002						000	1011	1	1	1101	0	0	1	1	0
1	21	HOW	B001	A001	A002		P		010	1111	0	0	1001	0	0	1	1	0
1	21	EDG	A001						100	1101	1	0	1111	0	0	0	1	1
1	21	EDG	A002						100	1011	0	0	1111	0	0	0	0	1
1	21	EDG	B001	A001	A002		P		100	1111	0	0	1111	0	0	0	0	1
1	21	CAM	A001						000	1001	1	0	1101	0	0	0	1	0
1	21	CAM	A002						000	1001	0	0	1001	0	0	1	1	0
1	21	CAM	B001	A001	A002		P		000	1101	0	0	1101	0	0	1	1	0
1	21	SHA	A001						000	1111	1	1	1101	0	0	1	0	0
1	21	SHA	A002						101	1101	0	1	1101	0	0	0	0	1
1	21	SHA	B001	A001	A002		P		100	1101	1	1	0101	0	0	0	0	0
1	21	DEV	A001						000	1111	1	1	1111	0	0	0	1	0
1	21	DEV	A002						010	1110	1	1	1001	0	0	1	0	0
1	21	DEV	B001	A001	A002		P		000	0111	1	0	1111	0	0	0	1	0
1	21	PIL	A001						101	1011	0	0	1111	0	0	1	1	0
1	21	PIL	A002						000	1111	0	1	0101	0	0	1	1	0
1	21	PIL	B001	A001	A002		P		000	1101	0	1	1101	0	0	1	1	0
1	21	HAL	A001						101	1110	0	0	1111	0	0	1		0
1	21	HAL	A002						000	1101	1	1	1111	0	0	1		0
1	21	HAL	B001	A001	A002		P		101	1011	0	1	1111	0	0	1		0
1	21	FAI	A001						010	1011	0	1	1111	0	0	0	1	0
1	21	FAI	A002						101	1110	1	1	1111	1	0	1	1	0
1	21	FAI	B001	A001	A002		P		101	1111	0	1	1111	0	0	0	1	0
1	21	CAM	A001						000	0101	1	0	1001	0	0	0	0	0
1	21	CAM	A002						111	1001	0	0	1111	0	0	0	0	0
1	21	CAM	B001	A001	A002		P		010	1101	0	0	1001	0	0	0	0	0
1	21	DAL	A001						010	1101	1	1	0101	0	0	1	0	0
1	21	DAL	A002						000	0101	0	0	1001	0	0	1	0	0
1	21	DAL	B001	A001	A002		P		000	0101	0	1	1101	0	0	1	0	0
1	21	SEL	A001						000	1101	0	1	1101	0	0	1	0	0
1	21	SEL	A002						101	1010	1	1	1101	0	0	1	1	0
1	21	SEL	B001	A001	A002		P		101	1111	1	1	0101	0	0	1	1	0
1	21	MCL	A001						010	1111	0	0	1111	0	0	1	1	1
1	21	MCL	A002						101	1101	1	1	1101	0	0	1	0	0
1	21	MCL	B001	A001	A002		P		110	1001	0	1	1101	0	0	1	0	0

CARD STUDY KIN INDIV PAT MAT RACE S P BO DOB DOT ABO MNSZ P RH KELL LU FY JK XG LE DO SC CO YT DI MARKER

1	21	DUN	A001							101	0101	1	1	1111	1		0	0		1		0
1	21	DUN	A002							101	1010	0	0	1001	1		0	1		1		0
1	21	DUN	B001	A001	A002				P	101	11	0	0	1111			0					0
1	21	MAR	A001							010	1001	1	0	1111	0		0	1		1		0
1	21	MAR	A002							101	1011	1	1	0101	0		1	1		0		0
1	21	MAR	B001	A001	A002				P	000	1011	0	1	1101	0		0	1		1		1
1	21	GIL	A001							010	1011	1	1	0101	1		0	1		1		0
1	21	GIL	A002							000	1111	0	1	1101	0		0	1		1		1
1	21	GIL	B001	A001	A002				P	000	1111	0	1	1101	1		0	1		1		0
1	21	DON	A001							000	1101	0	1	0101	0		0	0				0
1	21	DON	A002							000	1010	1	1	1111	0		0	0				0
1	21	DON	B001	A001	A002				P	000	1011	0	1	1111	0		0	0				0
1	21	MCK	A001							000	1011	0	1	1101	0		0	1		1		0
1	21	MCK	A002							101	1111	1	0	1111	0		0	1		1		0
1	21	MCK	B001	A001	A002				P	101	1111	1	0	1111	0		0	1		1		0
1	21	THO	A001							000	0111	0	1	0101	0		0	0		1		1
1	21	THO	A002							101	1101	1	1	1111	0		0	1		1		0
1	21	THO	B001	A001	A002				P	101	0101	1	1	1111	0		0	0		1		0
1	21	MIL	A001							000	0101	1	1	1111	0		0	1				0
1	21	MIL	A002							000	1101	1	1	1101	0		0	0				0
1	21	MIL	B001	A001	A002				P	000	1101	1	1	1101	0		0	1				0
1	21	BEL	A001							101	1010	1	1	1101	0		0	0		1		0
1	21	BEL	A002							000	1111	1	0	1101	0		0	0		1		0
1	21	BEL	B001	A001	A002				P	000	1111	1	1	1101	0		0	0		1		0
1	21	BEA	A001							000	1101	1	0	1111	0		0	1		0		0
1	21	BEA	A002																			
1	21	BEA	B001	A001	A002				P	010	1011	1	0	1001	0		0	0		1		0
1	21	CAS	A001							101	1101	0	1	1101	0		0	0		0		0
1	21	CAS	A002							100	1101	1	1	0101	0		0	1		0		0
1	21	CAS	B001	A001	A002				P	100	1001	1	1	0101	0		0	0		1		0

ACPEP.....PGM.....
 C S KN IND P1 LDA LDB ADA 6PG G6P A B C D 1 2 3 AK ICD PPH 23D PGA PH1 PGK GOT GPT NP PFK HK ALD G3P PK MDH PUT

2	21FINA001	B	1	A	21	1
2	21FINA002	B	1	A	21	1
2	21FINB001	B	1	A	21	1
2	21ROAA001	B	1	A	1	1
2	21ROAA002	B	1	A	1	1
2	21ROAB001	B	1	A	1	1
2	21BECA001	BA	1	A	1	1
2	21BECA002	B	1	A	21	1
2	21BECB001	B	1	A	21	1
2	21TURA001	B	1	A	1	1
2	21TURA002	CA	1	A	1	1
2	21TURB001	B	1	A	1	1
2	21GRIA001	B	1	A	21	1
2	21GRIA002	CB	21	A	1	1
2	21GRIB001	CB	21	A	1	1
2	21HAMA001	B	1	A	1	21
2	21HAMA002	BA	1	A	1	1
2	21HAMB001	BA	1	A	1	21
2	21BISA001	BA	1	A	2	1
2	21BISA002	BA	1	A	21	1
2	21BISB001	BA	1	A	21	1
2	21MCKA001	B	1	A	1	1
2	21MCKA002	BA	1	A	21	1
2	21MCKB001	B	1	A	21	1
2	21KELA001	BA	1	A	1	1
2	21KELA002	B	1	A	21	1
2	21KELB001	B	1	A	1	1
2	21STIA001	B	1	A	1	1
2	21STIA002	BA	1	A	21	1
2	21STIB001	BA	1	A	1	1
2	21DILA001	B	1	A	2	1
2	21DILA002	CA	21	A	1	1
2	21DILB001	BA	21	A	21	1
2	21WALA001	CB	1	A	2	1
2	21WALA002	BA	1	A	21	1
2	21WALB001		1	A	21	1
2	21HARA001	B	1	A	21	1
2	21HARA002	A	1	A	1	1
2	21HARB001	BA	1	A	21	1
2	21MCCA001	BA	1	A	1	1
2	21MCCA002	A	1	A	21	1
2	21MCCB001	A	1	A	1	1
2	21CAMA001	A	1	A	1	1
2	21CAMA002	BA	1	A	1	1
2	21CAMB001					
2	21KELA001	BA	1	A	1	1
2	21KELA002	A	1	A	1	1
2	21KELB001	BA	1	A	1	1
2	21DAVA001	BA	1	A	21	1
2	21DAVA002	BA	1	A	1	1
2	21DAVB001	B	1	A	21	1
2	21MCDA001	A	1	A	21	21
2	21MCDA002	B	1	A	1	1
2	21MCDB001	BA	1	A	21	1
2	21LOCA001	BA	1	A	1	1
2	21LOCA002	B	1	A	1	1

ACPEP.....PGM....
 C S KN IND P1 LDA LDB ADA 6PG G6P A B C D 1 2 3 AK ICD PPH 23D PGA PH1 PGK GOT GPT NP PFK HK ALD G3P PK MDH PUT

2	21	LOCB001	B		1	A				1			1
2	21	JOHA001	BA		1	A				21			1
2	21	JOHA002	B		1	A				2			1
2	21	JOHB001	BA		1	A				21			1
2	21	MKEA001	B		1	A				1			1
2	21	MKEA002	CA		1	A				1			1
2	21	MKEB001	CB		1	A				1			1
2	21	MKAA001	BA		21	A				21			1
2	21	MKAA002	B		1	A				1			21
2	21	MKAB001	BA		21	A				1			1
2	21	CRAA001	A		1	A				1			1
2	21	CRAA002	B		1	A				21			1
2	21	CRAB001	BA		1	A				21			1
2	21	BROA001	BA		1	A				21			1
2	21	BROA002	B		1	BA				21			1
2	21	BROB001	B		1	BA				1			1
2	21	BARA001	BA		1	A				1			1
2	21	BARA002	B		1	A				21			1
2	21	BARB001	B		1	A				21			1
2	21	HOWA001	BA		1	A							1
2	21	HOWA002	BA		1	A				21			1
2	21	HOWB001	A		1	A				1			1
2	21	EDGA001	BA		1	A				1			1
2	21	EDGA002	B		1	A				1			1
2	21	EDGB001	B		1	A				1			1
2	21	CAMA001	B		1	A				1			1
2	21	CAMA002				A							
2	21	CAMB001	B		21	A				1			1
2	21	SHAA001	B		1	A				21			1
2	21	SHAA002	A		21	A				1			1
2	21	SHAB001	BA		21	A				1			1
2	21	DEVA001	A		1	A				1			1
2	21	DEVA002	B		1	A				21			1
2	21	DEVB001	BA		1	A				21			1
2	21	PILA001	B		1	A				2			1
2	21	PILA002	BA		21	A				2			1
2	21	PILB001	B		21	A				2			1
2	21	HALA001	A		1	A				21			1
2	21	HALA002	B		1	A				21			1
2	21	HALB001	BA		1	A				21			1
2	21	FAIA001	B		1	A				1			1
2	21	FAIA002	B		21	A				1			1
2	21	FAIB001	B		1	A				1			1
2	21	CAMA001	A		1	A				21			1
2	21	CAMA002	B		1	A				21			1
2	21	CAMB001	BA		1	A				21			1
2	21	DALA001	BA		1	A				1			1
2	21	DALA002	BA		1	A				1			1
2	21	DALB001	BA		1	A				1			1
2	21	SELA001	BA		1	A				21			1
2	21	SELA002	BA		1	A				1			1
2	21	SELB001	BA		1	A				1			1
2	21	MCLA001	BA		1	A				1			1
2	21	MCLA002	BA			A				1			1
2	21	MCLB001	BA		1	A				1			1

C S KN IND ACPEP.....PGM.....
 P1 LDA LDB ADA 6PG G6P A B C D 1 2 3 AK ICD PPH 23D PGA PH1 PGK GOT GPT NP PFK HK ALD G3P PK MDH PUT

2	21DUNA001	BA	1	A	1	1
2	21DUNA002	BA	1	A	1	1
2	21DUNB001	A		A	1	1
2	21MARA001	BA	1	A	21	1
2	21MARA002	BA	21	A	1	1
2	21MARB001	BA	1	A	21	1
2	21GILA001	CB	1	A	1	1
2	21GILA002	BA	1	A	2	1
2	21GILB001	CB	1	A	21	1
2	21DONA001	A	1	A	1	1
2	21DONA002	BA	1	A	1	1
2	21DONB001	A	1	A	1	1
2	21MCKA001	B	1	A	21	1
2	21MCKA002	B	1	A	1	1
2	21MCKB001		1	A	21	
2	21THOA001	B	1	AB	2	1
2	21THOA002	BA	21	A	1	21
2	21THOB001	BA	21	AB	21	21
2	21MILA001	BA	1	A	1	1
2	21MILA002	BA	1	BA	21	1
2	21MILB001					
2	21BELA001	BA	1	A	21	1
2	21BELA002	B	1	A	21	1
2	21BELB001	B	1	A	2	1
2	21BEAA001	B	1	A	1	1
2	21BEAA002		1	A	1	1
2	21BEAB001	B	1	A	1	1
2	21CASA001	B	1	A	1	1
2	21CASA002	B	1	A	21	1
2	21CASB001	B	1	A	21	1

•AMY•

C S KN IND 1 2 E1 E2 PI CP ALB HP TF GC C3 PSGGM..... AM INV HLA 5 9A NA NB HB SE CR1 CR2 CR3

3	21FINA001	U	0					21	C	21		10	1			
3	21FINA002	U	0					2	C	1						
3	21FINB001	U	0					21	C	1						
3	21ROAA001	U	0					2	C	21		0				
3	21ROAA002	U	0					2	C	21		0				
3	21ROAB001	U	0					2	C	2						
3	21BECA001	U	0					2	C	1		10	1			
3	21BECA002	U	0					1	C	21		10	0			
3	21BECB001	U	0					21	C	1						
3	21TURA001	U	0					21	C	1		0				
3	21TURA002	U	0					21	C	21						
3	21TURB001	U	0					21	C	1						
3	21GRIA001	U	0					2	C	21		0				
3	21GRIA002	U	0					21	C	1		10	1			
3	21GRIB001	U	0					2	C	1						
3	21HAMA001	U	0					2	C	1		10	1			
3	21HAMA002	U	0					21	C	21		11	1			
3	21HAMB001	U	1					21	C							
3	21BISA001	U	0					21	C	21		0				
3	21BISA002	U	0					21	C	1		11	1			
3	21BISB001	U	0					1	C	1						
3	21MCKA001	U	0					2	C	1		10	0			
3	21MCKA002	U	0					1	C	21		11	1			
3	21MCKB001	U	0						C	1						
3	21KELA001	U	0					21	C	2		11	1			
3	21KELA002	U	0					21	C	21		11	1			
3	21KELB001	U	0						C							
3	21STIA001	U	0					21	C	1		10	1			
3	21STIA002	I	0					21	C	1		10	1			
3	21STIB001	I	0						C	1						
3	21DILA001	U	0					2	C	1		10	1			
3	21DILA002	U	0					2	C	2		11	1			
3	21DILB001	U	0					2	C	21						
3	21WALA001	U	0					2	C	2		11	0			
3	21WALA002	U	0					21	C	21		10	1			
3	21WALB001	U	0						C							
3	21HARA001	U	0					21	C	1		11	0			
3	21HARA002	U	0					21	C	1		0				
3	21HARB001	U	1					21	C	1						
3	21MCCA001	I	0					2	C	21		10	1			
3	21MCCA002	I	0					21	C	21		10	1			
3	21MCCB001	I	0						C	1						
3	21CAMA001	U	0					1	C	21		0				
3	21CAMA002	U	0					21	C	21		0				
3	21CAMB001															
3	21KELA001	U	0					1	C	21		0				
3	21KELA002	U	0					1	C	1		10	1			
3	21KELB001	U	0						C							
3	21DAVA001	U	0					2	C	21		10	1			
3	21DAVA002	U	0					21	C	21		0				
3	21DAVB001	U							C							
3	21MCDA001	I	0					1	C	21		10	1			
3	21MCDA002	U	0					21	C	21		0				
3	21MCDB001	U	0						C							
3	21LOCA001	U	0					1	C	21		0				
3	21LOCA002	U	0					21	C	1		11	1			

1

1 2

3	21DUNA001	I	0	21	C	1	0			0
3	21DUNA002	U	0	2	C	21	0			0
3	21DUNB001	U	1		C	1				0
3	21MARA001	I	0	21	C	1	11	1		0
3	21MARA002	U	0	21	C	1	11	1		0
3	21MARB001	I	0	21	C	1				
3	21GILA001	U	0	21	C	1	0			0
3	21GILA002	I	0	2	C	1	10	1		0
3	21GILB001	U	0		C	1				
3	21DONA001	U	0	21	C	21	0			0
3	21DONA002	U	0	2	C	1	11	1		1
3	21DONB001	U	0		C	1				
3	21MCKA001	U	0	21	C	21	0			0
3	21MCKA002	U	0	2	C	21	10	1		1
3	21MCKB001	U			C					
3	21THOA001	U	0	21	C	1	10	1		0
3	21THOA002	U	0	2	C	21	10	1		0
3	21THOB001	U	0	21	C					
3	21MILA001	U	0	21	C	1	10	1		0
3	21MILA002	U	0	2	C	1	10	1		1
3	21MILB001			2						
3	21BELA001	U	0	21	C	1	0			0
3	21BELA002	U	0	2	C	1	11	1		0
3	21BELB001	U	0	2	C	1				
3	21BEAA001		0	21	C	2	0			1
3	21BEAA002		0	21	C	21	0			0
3	21BEAB001		0	2	C					
3	21CASA001	U	0	2	C	1	0			0
3	21CASA002	U	0	2	C	21	0			1
3	21CASB001	U	0		C					

APPENDIX IV

TABLES OF THE LOG LIKELIHOOD VALUES USED TO PLOT
THE GRAPHS OF FIGURES 8, 9 AND 10. THE EVALUATES
AND THEIR TWO-UNIT SUPPORT LIMITS ARE ALSO GIVEN.

LOG LIKELIHOOD FOR ALL VALUES OF B AT THE ABO LOCUS

	.00	.01	.02	.03	.04
0.00	-0.251937E 03	-0.251846E 03	-0.251771E 03	-0.251711E 03	-0.251666E 03
0.05	-0.251636E 03	-0.251622E 03	-0.251626E 03	-0.251641E 03	-0.251672E 03
0.10	-0.251721E 03	-0.251786E 03	-0.251868E 03	-0.251966E 03	-0.252081E 03
0.15	-0.252212E 03	-0.252362E 03	-0.252527E 03	-0.252710E 03	-0.252912E 03
0.20	-0.253132E 03	-0.253371E 03	-0.253627E 03	-0.253903E 03	-0.254198E 03
0.25	-0.254513E 03	-0.254848E 03	-0.255204E 03	-0.255581E 03	-0.255976E 03
0.30	-0.256397E 03	-0.256837E 03	-0.257302E 03	-0.257789E 03	-0.258299E 03
0.35	-0.258831E 03	-0.259392E 03	-0.259976E 03	-0.260586E 03	-0.261222E 03
0.40	-0.261886E 03	-0.262578E 03	-0.263297E 03	-0.264048E 03	-0.264828E 03
0.45	-0.265640E 03	-0.266485E 03	-0.267362E 03	-0.268273E 03	-0.269220E 03
0.50	-0.270204E 03	-0.271226E 03	-0.272288E 03	-0.273389E 03	-0.274533E 03
0.55	-0.275722E 03	-0.276955E 03	-0.278236E 03	-0.279569E 03	-0.280951E 03
0.60	-0.282390E 03	-0.283886E 03	-0.285437E 03	-0.287053E 03	-0.288736E 03
0.65	-0.290487E 03	-0.292308E 03	-0.294210E 03	-0.296192E 03	-0.298260E 03
0.70	-0.300419E 03	-0.302676E 03	-0.305036E 03	-0.307509E 03	-0.310101E 03
0.75	-0.312821E 03	-0.315678E 03	-0.318687E 03	-0.321857E 03	-0.325208E 03
0.80	-0.328753E 03	-0.332509E 03	-0.336505E 03	-0.340763E 03	-0.345318E 03
0.85	-0.350205E 03	-0.355470E 03	-0.361169E 03	-0.367371E 03	-0.374160E 03
0.90	-0.381653E 03	-0.389992E 03	-0.399382E 03	-0.410094E 03	-0.422546E 03
0.95	-0.437366E 03	-0.455619E 03	-0.479299E 03	-0.512877E 03	-0.570624E 03
1.00	-0.399999E 07				

EVALUATE AND 2-UNIT SUPPORT REGION= 0.06 (0.00,0.21)

LOG LIKELIHOOD FOR ALL VALUES OF B AT THE MN LOCUS

.00

.01

.02

.03

.04

0.00	-0.291814E 03	-0.291861E 03	-0.291941E 03	-0.292054E 03	-0.292202E 03
0.05	-0.292383E 03	-0.292598E 03	-0.292846E 03	-0.293130E 03	-0.293447E 03
0.10	-0.293798E 03	-0.294184E 03	-0.294605E 03	-0.295060E 03	-0.295553E 03
0.15	-0.296079E 03	-0.296641E 03	-0.297241E 03	-0.297876E 03	-0.298550E 03
0.20	-0.299259E 03	-0.300008E 03	-0.300794E 03	-0.301620E 03	-0.302485E 03
0.25	-0.303390E 03	-0.304336E 03	-0.305323E 03	-0.306352E 03	-0.307424E 03
0.30	-0.308539E 03	-0.309699E 03	-0.310904E 03	-0.312155E 03	-0.313453E 03
0.35	-0.314799E 03	-0.316194E 03	-0.317639E 03	-0.319135E 03	-0.320685E 03
0.40	-0.322289E 03	-0.323948E 03	-0.325664E 03	-0.327438E 03	-0.329272E 03
0.45	-0.331169E 03	-0.333129E 03	-0.335155E 03	-0.337248E 03	-0.339412E 03
0.50	-0.341648E 03	-0.343960E 03	-0.346349E 03	-0.348818E 03	-0.351372E 03
0.55	-0.354011E 03	-0.356741E 03	-0.359566E 03	-0.362489E 03	-0.365514E 03
0.60	-0.368646E 03	-0.371890E 03	-0.375253E 03	-0.378739E 03	-0.382353E 03
0.65	-0.386105E 03	-0.390001E 03	-0.394049E 03	-0.398258E 03	-0.402638E 03
0.70	-0.407200E 03	-0.411956E 03	-0.416919E 03	-0.422102E 03	-0.427524E 03
0.75	-0.433202E 03	-0.439155E 03	-0.445406E 03	-0.451983E 03	-0.458916E 03
0.80	-0.466236E 03	-0.473985E 03	-0.482208E 03	-0.490958E 03	-0.500299E 03
0.85	-0.510306E 03	-0.521071E 03	-0.532705E 03	-0.545347E 03	-0.559172E 03
0.90	-0.574403E 03	-0.591337E 03	-0.610376E 03	-0.632080E 03	-0.657274E 03
0.95	-0.687232E 03	-0.724095E 03	-0.771868E 03	-0.839551E 03	-0.955857E 03
1.00	-0.399999E 07				

EVALUATE AND 2-UNIT SUPPORT REGION= 0.00 (0.00,0.10)

// XEQ GSNPP

LOG LIKELIHOOD FOR ALL VALUES OF B AT THE P LOCUS

	.00	.01	.02	.03	.04
0.00	-0.255632E 03	-0.255747E 03	-0.255875E 03	-0.256021E 03	-0.256178E 03
0.05	-0.256348E 03	-0.256534E 03	-0.256734E 03	-0.256948E 03	-0.257177E 03
0.10	-0.257423E 03	-0.257684E 03	-0.257958E 03	-0.258248E 03	-0.258555E 03
0.15	-0.258880E 03	-0.259219E 03	-0.259577E 03	-0.259950E 03	-0.260340E 03
0.20	-0.260748E 03	-0.261174E 03	-0.261619E 03	-0.262085E 03	-0.262565E 03
0.25	-0.263067E 03	-0.263590E 03	-0.264130E 03	-0.264694E 03	-0.265276E 03
0.30	-0.265882E 03	-0.266509E 03	-0.267158E 03	-0.267830E 03	-0.268528E 03
0.35	-0.269249E 03	-0.269994E 03	-0.270766E 03	-0.271563E 03	-0.272388E 03
0.40	-0.273240E 03	-0.274121E 03	-0.275031E 03	-0.275972E 03	-0.276944E 03
0.45	-0.277947E 03	-0.278985E 03	-0.280057E 03	-0.281165E 03	-0.282308E 03
0.50	-0.283491E 03	-0.284713E 03	-0.285975E 03	-0.287280E 03	-0.288631E 03
0.55	-0.290026E 03	-0.291470E 03	-0.292962E 03	-0.294510E 03	-0.296109E 03
0.60	-0.297766E 03	-0.299482E 03	-0.301262E 03	-0.303110E 03	-0.305023E 03
0.65	-0.307010E 03	-0.309075E 03	-0.311222E 03	-0.313454E 03	-0.315776E 03
0.70	-0.318196E 03	-0.320722E 03	-0.323356E 03	-0.326109E 03	-0.328986E 03
0.75	-0.332003E 03	-0.335166E 03	-0.338486E 03	-0.341981E 03	-0.345669E 03
0.80	-0.349559E 03	-0.353676E 03	-0.358050E 03	-0.362701E 03	-0.367667E 03
0.85	-0.372985E 03	-0.378707E 03	-0.384891E 03	-0.391605E 03	-0.398948E 03
0.90	-0.407033E 03	-0.416022E 03	-0.426121E 03	-0.437628E 03	-0.450976E 03
0.95	-0.466840E 03	-0.486343E 03	-0.511595E 03	-0.547341E 03	-0.608694E 03
1.00	-0.399999E 07				

EVALUATE AND 2-UNIT SUPPORT REGION= 0.00 (0.00,0.10)

LOG LIKELIHOOD FOR ALL VALUES OF B AT THE RH LOCUS

	.00	.01	.02	.03	.04
0.00	-0.295972E 03	-0.295880E 03	-0.295821E 03	-0.295795E 03	-0.295804E 03
0.05	-0.295847E 03	-0.295923E 03	-0.296034E 03	-0.296179E 03	-0.296359E 03
0.10	-0.296573E 03	-0.296821E 03	-0.297105E 03	-0.297424E 03	-0.297778E 03
0.15	-0.298168E 03	-0.298593E 03	-0.299055E 03	-0.299554E 03	-0.300089E 03
0.20	-0.300662E 03	-0.301272E 03	-0.301921E 03	-0.302609E 03	-0.303336E 03
0.25	-0.304103E 03	-0.304909E 03	-0.305757E 03	-0.306647E 03	-0.307579E 03
0.30	-0.308554E 03	-0.309572E 03	-0.310635E 03	-0.311745E 03	-0.312899E 03
0.35	-0.314103E 03	-0.315354E 03	-0.316654E 03	-0.318006E 03	-0.319409E 03
0.40	-0.320865E 03	-0.322376E 03	-0.323943E 03	-0.325567E 03	-0.327250E 03
0.45	-0.328995E 03	-0.330801E 03	-0.332672E 03	-0.334609E 03	-0.336616E 03
0.50	-0.338692E 03	-0.340843E 03	-0.343069E 03	-0.345374E 03	-0.347761E 03
0.55	-0.350233E 03	-0.352793E 03	-0.355446E 03	-0.358194E 03	-0.361041E 03
0.60	-0.363993E 03	-0.367056E 03	-0.370232E 03	-0.373528E 03	-0.376952E 03
0.65	-0.380508E 03	-0.384204E 03	-0.388049E 03	-0.392051E 03	-0.396219E 03
0.70	-0.400564E 03	-0.405097E 03	-0.409833E 03	-0.414782E 03	-0.419962E 03
0.75	-0.425393E 03	-0.431089E 03	-0.437078E 03	-0.443383E 03	-0.450031E 03
0.80	-0.457058E 03	-0.464501E 03	-0.472403E 03	-0.480819E 03	-0.489807E 03
0.85	-0.499443E 03	-0.509814E 03	-0.521029E 03	-0.533224E 03	-0.546564E 03
0.90	-0.561272E 03	-0.577632E 03	-0.596035E 03	-0.617025E 03	-0.641401E 03
0.95	-0.670403E 03	-0.706102E 03	-0.752392E 03	-0.818002E 03	-0.930796E 03
1.00	-0.399999E 07				

EVALUATE AND 2-UNIT SUPPORT REGION= 0.03 (0.00,0.15)

LOG LIKELIHOOD FOR ALL VALUES OF B AT THE KL LOCUS

	.00	.01	.02	.03	.04
0.00	-0.702599E 02	-0.702225E 02	-0.701883E 02	-0.701580E 02	-0.701309E 02
0.05	-0.701075E 02	-0.700876E 02	-0.700712E 02	-0.700585E 02	-0.700494E 02
0.10	-0.700437E 02	-0.700416E 02	-0.700434E 02	-0.700487E 02	-0.700575E 02
0.15	-0.700704E 02	-0.700867E 02	-0.701069E 02	-0.701308E 02	-0.701587E 02
0.20	-0.701902E 02	-0.702260E 02	-0.702654E 02	-0.703087E 02	-0.703564E 02
0.25	-0.704080E 02	-0.704638E 02	-0.705237E 02	-0.705878E 02	-0.706566E 02
0.30	-0.707296E 02	-0.708072E 02	-0.708895E 02	-0.709758E 02	-0.710675E 02
0.35	-0.711636E 02	-0.712651E 02	-0.713712E 02	-0.714825E 02	-0.715993E 02
0.40	-0.717212E 02	-0.718487E 02	-0.719823E 02	-0.721211E 02	-0.722662E 02
0.45	-0.724172E 02	-0.725747E 02	-0.727385E 02	-0.729092E 02	-0.730865E 02
0.50	-0.732712E 02	-0.734635E 02	-0.736627E 02	-0.738702E 02	-0.740858E 02
0.55	-0.743096E 02	-0.745426E 02	-0.747847E 02	-0.750363E 02	-0.752976E 02
0.60	-0.755694E 02	-0.758524E 02	-0.761463E 02	-0.764525E 02	-0.767710E 02
0.65	-0.771027E 02	-0.774483E 02	-0.778085E 02	-0.781843E 02	-0.785763E 02
0.70	-0.789857E 02	-0.794139E 02	-0.798616E 02	-0.803306E 02	-0.808224E 02
0.75	-0.813383E 02	-0.818813E 02	-0.824523E 02	-0.830544E 02	-0.836899E 02
0.80	-0.843631E 02	-0.850765E 02	-0.858352E 02	-0.866441E 02	-0.875091E 02
0.85	-0.884371E 02	-0.894374E 02	-0.905199E 02	-0.916983E 02	-0.929886E 02
0.90	-0.944124E 02	-0.959976E 02	-0.977825E 02	-0.998199E 02	-0.102187E 03
0.95	-0.105006E 03	-0.108479E 03	-0.112985E 03	-0.119376E 03	-0.130370E 03
1.00	-0.399998E 07				

EVALUATE AND 2-UNIT SUPPORT REGION= 0.10 (0.00,0.43)

LOG LIKELIHOOD FOR ALL VALUES OF B AT THE FY LOCUS

	.00	.01	.02	.03	.04
0.00	-0.199030E 03	-0.199265E 03	-0.199520E 03	-0.199798E 03	-0.200097E 03
0.05	-0.200417E 03	-0.200758E 03	-0.201121E 03	-0.201506E 03	-0.201914E 03
0.10	-0.202343E 03	-0.202794E 03	-0.203269E 03	-0.203765E 03	-0.204285E 03
0.15	-0.204828E 03	-0.205396E 03	-0.205986E 03	-0.206601E 03	-0.207240E 03
0.20	-0.207903E 03	-0.208593E 03	-0.209307E 03	-0.210047E 03	-0.210814E 03
0.25	-0.211607E 03	-0.212429E 03	-0.213277E 03	-0.214153E 03	-0.215059E 03
0.30	-0.215994E 03	-0.216958E 03	-0.217954E 03	-0.218981E 03	-0.220039E 03
0.35	-0.221130E 03	-0.222254E 03	-0.223414E 03	-0.224608E 03	-0.225838E 03
0.40	-0.227106E 03	-0.228411E 03	-0.229756E 03	-0.231140E 03	-0.232566E 03
0.45	-0.234036E 03	-0.235549E 03	-0.237108E 03	-0.238713E 03	-0.240368E 03
0.50	-0.242073E 03	-0.243830E 03	-0.245640E 03	-0.247508E 03	-0.249434E 03
0.55	-0.251420E 03	-0.253468E 03	-0.255584E 03	-0.257767E 03	-0.260023E 03
0.60	-0.262354E 03	-0.264764E 03	-0.267256E 03	-0.269834E 03	-0.272505E 03
0.65	-0.275270E 03	-0.278137E 03	-0.281113E 03	-0.284201E 03	-0.287410E 03
0.70	-0.290747E 03	-0.294221E 03	-0.297841E 03	-0.301617E 03	-0.305562E 03
0.75	-0.309686E 03	-0.314006E 03	-0.318538E 03	-0.323301E 03	-0.328314E 03
0.80	-0.333602E 03	-0.339194E 03	-0.345122E 03	-0.351423E 03	-0.358143E 03
0.85	-0.365335E 03	-0.373065E 03	-0.381412E 03	-0.390473E 03	-0.400374E 03
0.90	-0.411272E 03	-0.423380E 03	-0.436981E 03	-0.452475E 03	-0.470445E 03
0.95	-0.491798E 03	-0.518053E 03	-0.552054E 03	-0.600192E 03	-0.682854E 03
1.00	-0.399999E 07				

EVALUATE AND 2-UNIT SUPPORT REGION= 0.00 (0.00,0.07)

LOG LIKELIHOOD FOR ALL VALUES OF B AT THE JK LOCUS

	.00	.01	.02	.03	.04
0.00	-0.158587E 03	-0.158770E 03	-0.158970E 03	-0.159187E 03	-0.159423E 03
0.05	-0.159675E 03	-0.159947E 03	-0.160236E 03	-0.160544E 03	-0.160870E 03
0.10	-0.161215E 03	-0.161578E 03	-0.161959E 03	-0.162361E 03	-0.162781E 03
0.15	-0.163220E 03	-0.163679E 03	-0.164158E 03	-0.164656E 03	-0.165175E 03
0.20	-0.165714E 03	-0.166275E 03	-0.166856E 03	-0.167459E 03	-0.168084E 03
0.25	-0.168730E 03	-0.169399E 03	-0.170091E 03	-0.170806E 03	-0.171546E 03
0.30	-0.172309E 03	-0.173096E 03	-0.173910E 03	-0.174749E 03	-0.175614E 03
0.35	-0.176505E 03	-0.177425E 03	-0.178373E 03	-0.179350E 03	-0.180356E 03
0.40	-0.181393E 03	-0.182461E 03	-0.183562E 03	-0.184694E 03	-0.185862E 03
0.45	-0.187065E 03	-0.188303E 03	-0.189579E 03	-0.190893E 03	-0.192248E 03
0.50	-0.193644E 03	-0.195082E 03	-0.196564E 03	-0.198093E 03	-0.199669E 03
0.55	-0.201296E 03	-0.202974E 03	-0.204706E 03	-0.206493E 03	-0.208341E 03
0.60	-0.210249E 03	-0.212221E 03	-0.214261E 03	-0.216372E 03	-0.218558E 03
0.65	-0.220822E 03	-0.223169E 03	-0.225603E 03	-0.228131E 03	-0.230757E 03
0.70	-0.233488E 03	-0.236331E 03	-0.239293E 03	-0.242383E 03	-0.245610E 03
0.75	-0.248985E 03	-0.252519E 03	-0.256227E 03	-0.260121E 03	-0.264221E 03
0.80	-0.268547E 03	-0.273120E 03	-0.277967E 03	-0.283120E 03	-0.288615E 03
0.85	-0.294495E 03	-0.300814E 03	-0.307638E 03	-0.315044E 03	-0.323137E 03
0.90	-0.332044E 03	-0.341939E 03	-0.353054E 03	-0.365713E 03	-0.380396E 03
0.95	-0.397841E 03	-0.419290E 03	-0.447065E 03	-0.486385E 03	-0.553900E 03
1.00	-0.299999E 07				

EVALUATE AND 2-UNIT SUPPORT REGION= 0.00 (0.00,0.09)

LOG LIKELIHOOD FOR ALL VALUES OF B AT THE LU LOCUS

	.00	.01	.02	.03	.04
0.00	-0.436122E 02	-0.436264E 02	-0.436431E 02	-0.436625E 02	-0.436843E 02
0.05	-0.437090E 02	-0.437363E 02	-0.437658E 02	-0.437985E 02	-0.438335E 02
0.10	-0.438711E 02	-0.439117E 02	-0.439548E 02	-0.440008E 02	-0.440491E 02
0.15	-0.441007E 02	-0.441548E 02	-0.442118E 02	-0.442717E 02	-0.443345E 02
0.20	-0.444002E 02	-0.444689E 02	-0.445405E 02	-0.446150E 02	-0.446927E 02
0.25	-0.447736E 02	-0.448575E 02	-0.449448E 02	-0.450351E 02	-0.451290E 02
0.30	-0.452260E 02	-0.453267E 02	-0.454311E 02	-0.455387E 02	-0.456502E 02
0.35	-0.457652E 02	-0.458844E 02	-0.460071E 02	-0.461340E 02	-0.462652E 02
0.40	-0.464001E 02	-0.465395E 02	-0.466836E 02	-0.468320E 02	-0.469852E 02
0.45	-0.471431E 02	-0.473061E 02	-0.474739E 02	-0.476472E 02	-0.478258E 02
0.50	-0.480103E 02	-0.482006E 02	-0.483964E 02	-0.485990E 02	-0.488080E 02
0.55	-0.490234E 02	-0.492461E 02	-0.494761E 02	-0.497137E 02	-0.499589E 02
0.60	-0.502127E 02	-0.504752E 02	-0.507467E 02	-0.510278E 02	-0.513190E 02
0.65	-0.516207E 02	-0.519334E 02	-0.522579E 02	-0.525948E 02	-0.529451E 02
0.70	-0.533093E 02	-0.536884E 02	-0.540835E 02	-0.544958E 02	-0.549262E 02
0.75	-0.553764E 02	-0.558483E 02	-0.563427E 02	-0.568622E 02	-0.574091E 02
0.80	-0.579864E 02	-0.585961E 02	-0.592423E 02	-0.599297E 02	-0.606621E 02
0.85	-0.614457E 02	-0.622882E 02	-0.631970E 02	-0.641839E 02	-0.652614E 02
0.90	-0.664476E 02	-0.677643E 02	-0.692434E 02	-0.709277E 02	-0.728796E 02
0.95	-0.751989E 02	-0.780490E 02	-0.817387E 02	-0.869598E 02	-0.959213E 02
1.00	-0.200000E 07				

EVALUATE AND 2-UNIT SUPPORT REGION= 0.00 (0.00,0.34)

LOG LIKELIHOOD FOR ALL VALUES OF B AT THE GC LOCUS

	.00	.01	.02	.03	.04
0.00	-0.325778E 02	-0.328098E 02	-0.330456E 02	-0.332855E 02	-0.335295E 02
0.05	-0.337776E 02	-0.340298E 02	-0.342862E 02	-0.345470E 02	-0.348121E 02
0.10	-0.350816E 02	-0.353555E 02	-0.356340E 02	-0.359172E 02	-0.362050E 02
0.15	-0.364978E 02	-0.367954E 02	-0.370979E 02	-0.374056E 02	-0.377184E 02
0.20	-0.380367E 02	-0.383601E 02	-0.386892E 02	-0.390240E 02	-0.393644E 02
0.25	-0.397107E 02	-0.400632E 02	-0.404217E 02	-0.407865E 02	-0.411578E 02
0.30	-0.415358E 02	-0.419206E 02	-0.423122E 02	-0.427112E 02	-0.431174E 02
0.35	-0.435311E 02	-0.439528E 02	-0.443824E 02	-0.448202E 02	-0.452665E 02
0.40	-0.457216E 02	-0.461855E 02	-0.466591E 02	-0.471419E 02	-0.476350E 02
0.45	-0.481381E 02	-0.486520E 02	-0.491769E 02	-0.497131E 02	-0.502612E 02
0.50	-0.508216E 02	-0.513946E 02	-0.519810E 02	-0.525812E 02	-0.531958E 02
0.55	-0.538255E 02	-0.544705E 02	-0.551321E 02	-0.558107E 02	-0.565074E 02
0.60	-0.572228E 02	-0.579577E 02	-0.587135E 02	-0.594908E 02	-0.602912E 02
0.65	-0.611160E 02	-0.619663E 02	-0.628436E 02	-0.637499E 02	-0.646865E 02
0.70	-0.656558E 02	-0.666600E 02	-0.677010E 02	-0.687821E 02	-0.699058E 02
0.75	-0.710760E 02	-0.722958E 02	-0.735699E 02	-0.749028E 02	-0.763000E 02
0.80	-0.777680E 02	-0.793137E 02	-0.809458E 02	-0.826738E 02	-0.845095E 02
0.85	-0.864669E 02	-0.885626E 02	-0.908170E 02	-0.932557E 02	-0.959106E 02
0.90	-0.988231E 02	-0.102047E 03	-0.105656E 03	-0.109754E 03	-0.114492E 03
0.95	-0.120102E 03	-0.126979E 03	-0.135856E 03	-0.148385E 03	-0.169832E 03
1.00	-0.299999E 07				

EVALUATE AND 2-UNIT SUPPORT REGION= 0.00 (0.00,0.09)

LOG LIKELIHOOD FOR ALL VALUES OF B AT THE HP LOCUS

	.00	.01	.02	.03	.04
0.00	-0.748596E 02	-0.748939E 02	-0.749362E 02	-0.749869E 02	-0.750462E 02
0.05	-0.751136E 02	-0.751895E 02	-0.752738E 02	-0.753666E 02	-0.754678E 02
0.10	-0.755777E 02	-0.756961E 02	-0.758232E 02	-0.759591E 02	-0.761039E 02
0.15	-0.762574E 02	-0.764201E 02	-0.765917E 02	-0.767724E 02	-0.769624E 02
0.20	-0.771619E 02	-0.773708E 02	-0.775895E 02	-0.778177E 02	-0.780560E 02
0.25	-0.783042E 02	-0.785628E 02	-0.788316E 02	-0.791110E 02	-0.794010E 02
0.30	-0.797021E 02	-0.800142E 02	-0.803378E 02	-0.806729E 02	-0.810199E 02
0.35	-0.813791E 02	-0.817505E 02	-0.821348E 02	-0.825318E 02	-0.829422E 02
0.40	-0.833663E 02	-0.838042E 02	-0.842566E 02	-0.847237E 02	-0.852061E 02
0.45	-0.857040E 02	-0.862182E 02	-0.867489E 02	-0.872967E 02	-0.878623E 02
0.50	-0.884463E 02	-0.890491E 02	-0.896719E 02	-0.903149E 02	-0.909792E 02
0.55	-0.916652E 02	-0.923744E 02	-0.931074E 02	-0.938652E 02	-0.946489E 02
0.60	-0.954599E 02	-0.962994E 02	-0.971687E 02	-0.980692E 02	-0.990027E 02
0.65	-0.999709E 02	-0.100975E 03	-0.102019E 03	-0.103103E 03	-0.104231E 03
0.70	-0.105405E 03	-0.106628E 03	-0.107904E 03	-0.109236E 03	-0.110628E 03
0.75	-0.112085E 03	-0.113613E 03	-0.115216E 03	-0.116902E 03	-0.118678E 03
0.80	-0.120554E 03	-0.122537E 03	-0.124642E 03	-0.126881E 03	-0.129270E 03
0.85	-0.131828E 03	-0.134579E 03	-0.137551E 03	-0.140780E 03	-0.144309E 03
0.90	-0.148196E 03	-0.152517E 03	-0.157372E 03	-0.162906E 03	-0.169328E 03
0.95	-0.176962E 03	-0.186353E 03	-0.198520E 03	-0.215752E 03	-0.245356E 03
1.00	-0.399999E 07				

EVALUATE AND 2-UNIT SUPPORT REGION= 0.00 (0.00,0.18)

LOG LIKELIHOOD FOR ALL VALUES OF B AT THE LPA LOCUS

	.00	.01	.02	.03	.04
0.00	-0.178849E 02	-0.179507E 02	-0.180178E 02	-0.180860E 02	-0.181556E 02
0.05	-0.182264E 02	-0.182986E 02	-0.183721E 02	-0.184469E 02	-0.185231E 02
0.10	-0.186007E 02	-0.186798E 02	-0.187603E 02	-0.188423E 02	-0.189258E 02
0.15	-0.190108E 02	-0.190974E 02	-0.191856E 02	-0.192755E 02	-0.193669E 02
0.20	-0.194602E 02	-0.195551E 02	-0.196518E 02	-0.197503E 02	-0.198507E 02
0.25	-0.199530E 02	-0.200573E 02	-0.201635E 02	-0.202718E 02	-0.203822E 02
0.30	-0.204947E 02	-0.206094E 02	-0.207264E 02	-0.208458E 02	-0.209675E 02
0.35	-0.210916E 02	-0.212183E 02	-0.213476E 02	-0.214796E 02	-0.216143E 02
0.40	-0.217519E 02	-0.218924E 02	-0.220359E 02	-0.221826E 02	-0.223325E 02
0.45	-0.224857E 02	-0.226424E 02	-0.228027E 02	-0.229666E 02	-0.231345E 02
0.50	-0.233063E 02	-0.234822E 02	-0.236625E 02	-0.238473E 02	-0.240367E 02
0.55	-0.242311E 02	-0.244305E 02	-0.246352E 02	-0.248455E 02	-0.250615E 02
0.60	-0.252837E 02	-0.255123E 02	-0.257476E 02	-0.259900E 02	-0.262398E 02
0.65	-0.264975E 02	-0.267635E 02	-0.270383E 02	-0.273224E 02	-0.276164E 02
0.70	-0.279210E 02	-0.282368E 02	-0.285647E 02	-0.289055E 02	-0.292602E 02
0.75	-0.296298E 02	-0.300156E 02	-0.304189E 02	-0.308412E 02	-0.312844E 02
0.80	-0.317504E 02	-0.322416E 02	-0.327607E 02	-0.333108E 02	-0.338957E 02
0.85	-0.345200E 02	-0.351889E 02	-0.359091E 02	-0.366888E 02	-0.375383E 02
0.90	-0.384710E 02	-0.395043E 02	-0.406620E 02	-0.419774E 02	-0.434990E 02
0.95	-0.453026E 02	-0.475145E 02	-0.503719E 02	-0.544073E 02	-0.613197E 02
1.00	-0.999999E 06				

EVALUATE AND 2-UNIT SUPPORT REGION= 0.00 (0.00,0.25)

LOG LIKELIHOOD FOR ALL VALUES OF B AT THE PGM LOCUS

	.00	.01	.02	.03	.04
0.00	-0.187149E 02	-0.187161E 02	-0.187197E 02	-0.187256E 02	-0.187341E 02
0.05	-0.187449E 02	-0.187581E 02	-0.187738E 02	-0.187919E 02	-0.188125E 02
0.10	-0.188355E 02	-0.188610E 02	-0.188889E 02	-0.189194E 02	-0.189524E 02
0.15	-0.189879E 02	-0.190260E 02	-0.190668E 02	-0.191101E 02	-0.191561E 02
0.20	-0.192047E 02	-0.192561E 02	-0.193102E 02	-0.193671E 02	-0.194268E 02
0.25	-0.194893E 02	-0.195548E 02	-0.196232E 02	-0.196946E 02	-0.197691E 02
0.30	-0.198466E 02	-0.199273E 02	-0.200113E 02	-0.200984E 02	-0.201890E 02
0.35	-0.202830E 02	-0.203805E 02	-0.204816E 02	-0.205863E 02	-0.206947E 02
0.40	-0.208071E 02	-0.209234E 02	-0.210437E 02	-0.211682E 02	-0.212970E 02
0.45	-0.214302E 02	-0.215678E 02	-0.217103E 02	-0.218575E 02	-0.220097E 02
0.50	-0.221669E 02	-0.223297E 02	-0.224979E 02	-0.226720E 02	-0.228517E 02
0.55	-0.230378E 02	-0.232304E 02	-0.234295E 02	-0.236357E 02	-0.238492E 02
0.60	-0.240703E 02	-0.242994E 02	-0.245367E 02	-0.247830E 02	-0.250383E 02
0.65	-0.253035E 02	-0.255788E 02	-0.258650E 02	-0.261625E 02	-0.264723E 02
0.70	-0.267950E 02	-0.271314E 02	-0.274826E 02	-0.278493E 02	-0.282331E 02
0.75	-0.286350E 02	-0.290565E 02	-0.294992E 02	-0.299650E 02	-0.304561E 02
0.80	-0.309745E 02	-0.315237E 02	-0.321063E 02	-0.327266E 02	-0.333887E 02
0.85	-0.340980E 02	-0.348612E 02	-0.356863E 02	-0.365827E 02	-0.375632E 02
0.90	-0.386436E 02	-0.398450E 02	-0.411957E 02	-0.427358E 02	-0.445235E 02
0.95	-0.466497E 02	-0.492661E 02	-0.526571E 02	-0.574618E 02	-0.657192E 02
1.00	-0.199999E 07				

EVALUATE AND 2-UNIT SUPPORT REGION= 0.00 (0.00,0.40)

LOG LIKELIHOOD FOR ALL VALUES OF B AT THE ACP LOCUS

	.00	.01	.02	.03	.04
0.00	-0.207943E 02	-0.207356E 02	-0.206795E 02	-0.206260E 02	-0.205750E 02
0.05	-0.205266E 02	-0.204808E 02	-0.204375E 02	-0.203967E 02	-0.203585E 02
0.10	-0.203230E 02	-0.202899E 02	-0.202594E 02	-0.202314E 02	-0.202061E 02
0.15	-0.201833E 02	-0.201631E 02	-0.201455E 02	-0.201306E 02	-0.201183E 02
0.20	-0.201086E 02	-0.201016E 02	-0.200973E 02	-0.200958E 02	-0.200969E 02
0.25	-0.201008E 02	-0.201076E 02	-0.201172E 02	-0.201296E 02	-0.201449E 02
0.30	-0.201632E 02	-0.201845E 02	-0.202088E 02	-0.202362E 02	-0.202668E 02
0.35	-0.203004E 02	-0.203374E 02	-0.203777E 02	-0.204213E 02	-0.204684E 02
0.40	-0.205190E 02	-0.205732E 02	-0.206311E 02	-0.206927E 02	-0.207582E 02
0.45	-0.208277E 02	-0.209012E 02	-0.209789E 02	-0.210609E 02	-0.211473E 02
0.50	-0.212383E 02	-0.213340E 02	-0.214346E 02	-0.215402E 02	-0.216511E 02
0.55	-0.217673E 02	-0.218891E 02	-0.220168E 02	-0.221505E 02	-0.222906E 02
0.60	-0.224372E 02	-0.225906E 02	-0.227514E 02	-0.229196E 02	-0.230957E 02
0.65	-0.232801E 02	-0.234733E 02	-0.236757E 02	-0.238880E 02	-0.241105E 02
0.70	-0.243440E 02	-0.245892E 02	-0.248468E 02	-0.251177E 02	-0.254029E 02
0.75	-0.257034E 02	-0.260204E 02	-0.263554E 02	-0.267098E 02	-0.270853E 02
0.80	-0.274841E 02	-0.279084E 02	-0.283609E 02	-0.288448E 02	-0.293639E 02
0.85	-0.299225E 02	-0.305262E 02	-0.311815E 02	-0.318966E 02	-0.326818E 02
0.90	-0.335505E 02	-0.345202E 02	-0.356144E 02	-0.368666E 02	-0.383254E 02
0.95	-0.400663E 02	-0.422160E 02	-0.450114E 02	-0.489850E 02	-0.558358E 02
1.00	-0.199999E 07				

EVALUATE AND 2-UNIT SUPPORT REGION= 0.23 (0.00,0.58)

LOG LIKELIHOOD FOR ALL VALUES OF B AT THE AK LOCUS

	.00	.01	.02	.03	.04
0.00	-0.693147E 01	-0.698192E 01	-0.703328E 01	-0.708556E 01	-0.713878E 01
0.05	-0.719294E 01	-0.724806E 01	-0.730414E 01	-0.736121E 01	-0.741928E 01
0.10	-0.747837E 01	-0.753848E 01	-0.759964E 01	-0.766187E 01	-0.772517E 01
0.15	-0.778957E 01	-0.785510E 01	-0.792177E 01	-0.798959E 01	-0.805861E 01
0.20	-0.812883E 01	-0.820028E 01	-0.827299E 01	-0.834699E 01	-0.842230E 01
0.25	-0.849895E 01	-0.857698E 01	-0.865641E 01	-0.873727E 01	-0.881961E 01
0.30	-0.890346E 01	-0.898886E 01	-0.907584E 01	-0.916445E 01	-0.925473E 01
0.35	-0.934674E 01	-0.944050E 01	-0.953609E 01	-0.963355E 01	-0.973293E 01
0.40	-0.983430E 01	-0.993771E 01	-0.100432E 02	-0.101509E 02	-0.102609E 02
0.45	-0.103732E 02	-0.104878E 02	-0.106050E 02	-0.107248E 02	-0.108473E 02
0.50	-0.109725E 02	-0.111007E 02	-0.112318E 02	-0.113660E 02	-0.115036E 02
0.55	-0.116445E 02	-0.117889E 02	-0.119371E 02	-0.120891E 02	-0.122451E 02
0.60	-0.124054E 02	-0.125702E 02	-0.127397E 02	-0.129140E 02	-0.130936E 02
0.65	-0.132786E 02	-0.134695E 02	-0.136664E 02	-0.138699E 02	-0.140802E 02
0.70	-0.142980E 02	-0.145236E 02	-0.147575E 02	-0.150005E 02	-0.152532E 02
0.75	-0.155162E 02	-0.157906E 02	-0.160772E 02	-0.163771E 02	-0.166915E 02
0.80	-0.170219E 02	-0.173699E 02	-0.177373E 02	-0.181265E 02	-0.185400E 02
0.85	-0.189809E 02	-0.194531E 02	-0.199611E 02	-0.205107E 02	-0.211092E 02
0.90	-0.217658E 02	-0.224928E 02	-0.233069E 02	-0.242312E 02	-0.252999E 02
0.95	-0.265659E 02	-0.281177E 02	-0.301212E 02	-0.329494E 02	-0.377913E 02
1.00	-0.999999E 06				

EVALUATE AND 2-UNIT SUPPORT REGION= 0.00 (0.00,0.31)

LOG LIKELIHOOD FOR ALL VALUES OF B AT THE ADA LOCUS

	.00	.01	.02	.03	.04
0.00	-0.554517E 01	-0.550557E 01	-0.546676E 01	-0.542874E 01	-0.539149E 01
0.05	-0.535502E 01	-0.531931E 01	-0.528436E 01	-0.525017E 01	-0.521673E 01
0.10	-0.518403E 01	-0.515208E 01	-0.512087E 01	-0.509039E 01	-0.506065E 01
0.15	-0.503164E 01	-0.500336E 01	-0.497581E 01	-0.494899E 01	-0.492289E 01
0.20	-0.489753E 01	-0.487289E 01	-0.484899E 01	-0.482582E 01	-0.480338E 01
0.25	-0.478168E 01	-0.476071E 01	-0.474049E 01	-0.472102E 01	-0.470230E 01
0.30	-0.468434E 01	-0.466714E 01	-0.465071E 01	-0.463505E 01	-0.462019E 01
0.35	-0.460611E 01	-0.459284E 01	-0.458038E 01	-0.456874E 01	-0.455794E 01
0.40	-0.454799E 01	-0.453890E 01	-0.453069E 01	-0.452336E 01	-0.451695E 01
0.45	-0.451146E 01	-0.450693E 01	-0.450335E 01	-0.450077E 01	-0.449920E 01
0.50	-0.449868E 01	-0.449921E 01	-0.450085E 01	-0.450361E 01	-0.450754E 01
0.55	-0.451266E 01	-0.451902E 01	-0.452666E 01	-0.453562E 01	-0.454596E 01
0.60	-0.455773E 01	-0.457098E 01	-0.458578E 01	-0.460220E 01	-0.462030E 01
0.65	-0.464017E 01	-0.466189E 01	-0.468556E 01	-0.471128E 01	-0.473917E 01
0.70	-0.476935E 01	-0.480196E 01	-0.483716E 01	-0.487511E 01	-0.491601E 01
0.75	-0.496007E 01	-0.500752E 01	-0.505865E 01	-0.511375E 01	-0.517317E 01
0.80	-0.523733E 01	-0.530667E 01	-0.538175E 01	-0.546319E 01	-0.555174E 01
0.85	-0.564830E 01	-0.575394E 01	-0.586998E 01	-0.599807E 01	-0.614026E 01
0.90	-0.629922E 01	-0.647844E 01	-0.668268E 01	-0.691857E 01	-0.719587E 01
0.95	-0.752966E 01	-0.794526E 01	-0.849009E 01	-0.927064E 01	-0.106267E 02
1.00	-0.999999E 06				

EVALUATE AND 2-UNIT SUPPORT REGION= 0.50 (0.00,0.92)

LOG LIKELIHOOD FOR ALL VALUES OF B AT THE PTC LOCUS

	.00	.01	.02	.03	.04
0.00	-0.221851E 01	-0.222831E 01	-0.223837E 01	-0.224868E 01	-0.225927E 01
0.05	-0.227012E 01	-0.228124E 01	-0.229264E 01	-0.230432E 01	-0.231628E 01
0.10	-0.232854E 01	-0.234109E 01	-0.235394E 01	-0.236710E 01	-0.238057E 01
0.15	-0.239435E 01	-0.240846E 01	-0.242290E 01	-0.243767E 01	-0.245279E 01
0.20	-0.246825E 01	-0.248407E 01	-0.250026E 01	-0.251682E 01	-0.253375E 01
0.25	-0.255108E 01	-0.256880E 01	-0.258693E 01	-0.260548E 01	-0.262445E 01
0.30	-0.264386E 01	-0.266372E 01	-0.268404E 01	-0.270483E 01	-0.272611E 01
0.35	-0.274788E 01	-0.277016E 01	-0.279298E 01	-0.281633E 01	-0.284024E 01
0.40	-0.286472E 01	-0.288980E 01	-0.291549E 01	-0.294181E 01	-0.296878E 01
0.45	-0.299642E 01	-0.302476E 01	-0.305382E 01	-0.308363E 01	-0.311421E 01
0.50	-0.314560E 01	-0.317782E 01	-0.321090E 01	-0.324489E 01	-0.327982E 01
0.55	-0.331572E 01	-0.335264E 01	-0.339063E 01	-0.342974E 01	-0.347001E 01
0.60	-0.351150E 01	-0.355427E 01	-0.359839E 01	-0.364392E 01	-0.369095E 01
0.65	-0.373955E 01	-0.378981E 01	-0.384183E 01	-0.389572E 01	-0.395160E 01
0.70	-0.400958E 01	-0.406982E 01	-0.413247E 01	-0.419769E 01	-0.426569E 01
0.75	-0.433668E 01	-0.441090E 01	-0.448862E 01	-0.457016E 01	-0.465585E 01
0.80	-0.474612E 01	-0.484142E 01	-0.494229E 01	-0.504937E 01	-0.516341E 01
0.85	-0.528530E 01	-0.541613E 01	-0.555721E 01	-0.571019E 01	-0.587713E 01
0.90	-0.606069E 01	-0.626438E 01	-0.649294E 01	-0.675302E 01	-0.705436E 01
0.95	-0.741207E 01	-0.785145E 01	-0.841992E 01	-0.922399E 01	-0.106034E 02
1.00	-0.999999E 06				

EVALUATE AND 2-UNIT SUPPORT REGION= 0.00 (0.00,0.74)

LOG LIKELIHOOD FOR ALL VALUES OF B AT THE AMY LOCUS

	.00	.01	.02	.03	.04
0.00	-0.485202E 01	-0.489233E 01	-0.493323E 01	-0.497476E 01	-0.501691E 01
0.05	-0.505970E 01	-0.510313E 01	-0.514722E 01	-0.519197E 01	-0.523740E 01
0.10	-0.528352E 01	-0.533033E 01	-0.537786E 01	-0.542612E 01	-0.547511E 01
0.15	-0.552486E 01	-0.557537E 01	-0.562667E 01	-0.567876E 01	-0.573168E 01
0.20	-0.578542E 01	-0.584002E 01	-0.589548E 01	-0.595183E 01	-0.600910E 01
0.25	-0.606729E 01	-0.612644E 01	-0.618656E 01	-0.624768E 01	-0.630983E 01
0.30	-0.637303E 01	-0.643732E 01	-0.650271E 01	-0.656923E 01	-0.663693E 01
0.35	-0.670584E 01	-0.677597E 01	-0.684739E 01	-0.692012E 01	-0.699420E 01
0.40	-0.706968E 01	-0.714660E 01	-0.722500E 01	-0.730494E 01	-0.738647E 01
0.45	-0.746965E 01	-0.755452E 01	-0.764115E 01	-0.772961E 01	-0.781997E 01
0.50	-0.791230E 01	-0.800667E 01	-0.810316E 01	-0.820187E 01	-0.830289E 01
0.55	-0.840631E 01	-0.851224E 01	-0.862080E 01	-0.873210E 01	-0.884628E 01
0.60	-0.896348E 01	-0.908383E 01	-0.920752E 01	-0.933471E 01	-0.946558E 01
0.65	-0.960036E 01	-0.973925E 01	-0.988251E 01	-0.100304E 02	-0.101832E 02
0.70	-0.103412E 02	-0.105049E 02	-0.106745E 02	-0.108505E 02	-0.110335E 02
0.75	-0.112238E 02	-0.114222E 02	-0.116294E 02	-0.118460E 02	-0.120730E 02
0.80	-0.123114E 02	-0.125623E 02	-0.128271E 02	-0.131074E 02	-0.134051E 02
0.85	-0.137224E 02	-0.140620E 02	-0.144271E 02	-0.148220E 02	-0.152518E 02
0.90	-0.157230E 02	-0.162446E 02	-0.168283E 02	-0.174908E 02	-0.182563E 02
0.95	-0.191628E 02	-0.202734E 02	-0.217067E 02	-0.237290E 02	-0.271897E 02
1.00	-0.999999E 06				

EVALUATE AND 2-UNIT SUPPORT REGION= 0.00 (0.00,0.37)

LOG LIKELIHOOD FOR ALL VALUES OF B AT THE GM LOCUS (FOR ALL TRISOMICS OVER 6 MONTHS OLD.)

	.00	.01	.02	.03	.04
0.00	-0.672351E 02	-0.670993E 02	-0.669718E 02	-0.668527E 02	-0.667421E 02
0.05	-0.666396E 02	-0.665457E 02	-0.664598E 02	-0.663824E 02	-0.663133E 02
0.10	-0.662525E 02	-0.662002E 02	-0.661562E 02	-0.661207E 02	-0.660934E 02
0.15	-0.660750E 02	-0.660649E 02	-0.660636E 02	-0.660707E 02	-0.660866E 02
0.20	-0.6611113E 02	-0.661450E 02	-0.661876E 02	-0.662392E 02	-0.662999E 02
0.25	-0.663700E 02	-0.664494E 02	-0.665382E 02	-0.666366E 02	-0.667447E 02
0.30	-0.668629E 02	-0.669911E 02	-0.671294E 02	-0.672780E 02	-0.674373E 02
0.35	-0.676074E 02	-0.677883E 02	-0.679806E 02	-0.681842E 02	-0.683996E 02
0.40	-0.686269E 02	-0.688664E 02	-0.691184E 02	-0.693832E 02	-0.696613E 02
0.45	-0.699528E 02	-0.702583E 02	-0.705780E 02	-0.709125E 02	-0.712621E 02
0.50	-0.716275E 02	-0.720090E 02	-0.724072E 02	-0.728228E 02	-0.732563E 02
0.55	-0.737084E 02	-0.741798E 02	-0.746714E 02	-0.751838E 02	-0.757181E 02
0.60	-0.762751E 02	-0.768559E 02	-0.774617E 02	-0.780936E 02	-0.787528E 02
0.65	-0.794409E 02	-0.801593E 02	-0.809099E 02	-0.816944E 02	-0.825148E 02
0.70	-0.833733E 02	-0.842725E 02	-0.852150E 02	-0.862039E 02	-0.872423E 02
0.75	-0.883343E 02	-0.894838E 02	-0.906958E 02	-0.919755E 02	-0.933293E 02
0.80	-0.947639E 02	-0.962877E 02	-0.979101E 02	-0.996421E 02	-0.101496E 03
0.85	-0.103490E 03	-0.105640E 03	-0.107971E 03	-0.110512E 03	-0.113297E 03
0.90	-0.116374E 03	-0.119805E 03	-0.123671E 03	-0.128090E 03	-0.133232E 03
0.95	-0.139362E 03	-0.146921E 03	-0.156740E 03	-0.170683E 03	-0.194696E 03
1.00	-0.399999E 07				

EVALUATE AND 2-UNIT SUPPORT REGION= 0.17 (0.00,0.37)

LOG LIKELIHOOD FOR ALL VALUES OF B AT THE GM LOCUS (FOR INFANT TRISOMICS: NEWBORNS UP TO 6 MONTHS OLD INCL.)

	.00	.01	.02	.03	.04
0.00	-0.901091E 01	-0.888155E 01	-0.875347E 01	-0.862664E 01	-0.850104E 01
0.05	-0.837664E 01	-0.825341E 01	-0.813135E 01	-0.801041E 01	-0.789060E 01
0.10	-0.777188E 01	-0.765423E 01	-0.753763E 01	-0.742208E 01	-0.730754E 01
0.15	-0.719400E 01	-0.708145E 01	-0.696986E 01	-0.685922E 01	-0.674951E 01
0.20	-0.664073E 01	-0.653284E 01	-0.642585E 01	-0.631972E 01	-0.621446E 01
0.25	-0.611004E 01	-0.600646E 01	-0.590369E 01	-0.580173E 01	-0.570056E 01
0.30	-0.560017E 01	-0.550056E 01	-0.540170E 01	-0.530358E 01	-0.520620E 01
0.35	-0.510955E 01	-0.501361E 01	-0.491837E 01	-0.482382E 01	-0.472996E 01
0.40	-0.463677E 01	-0.454424E 01	-0.445237E 01	-0.436114E 01	-0.427055E 01
0.45	-0.418058E 01	-0.409123E 01	-0.400250E 01	-0.391436E 01	-0.382682E 01
0.50	-0.373986E 01	-0.365349E 01	-0.356768E 01	-0.348243E 01	-0.339774E 01
0.55	-0.331360E 01	-0.322999E 01	-0.314693E 01	-0.306439E 01	-0.298237E 01
0.60	-0.290086E 01	-0.281987E 01	-0.273937E 01	-0.265937E 01	-0.257986E 01
0.65	-0.250083E 01	-0.242228E 01	-0.234420E 01	-0.226659E 01	-0.218944E 01
0.70	-0.211274E 01	-0.203649E 01	-0.196069E 01	-0.188533E 01	-0.181040E 01
0.75	-0.173590E 01	-0.166183E 01	-0.158818E 01	-0.151494E 01	-0.144211E 01
0.80	-0.136968E 01	-0.129766E 01	-0.122604E 01	-0.115480E 01	-0.108396E 01
0.85	-0.101350E 01	-0.943419E 00	-0.873714E 00	-0.804381E 00	-0.735415E 00
0.90	-0.666813E 00	-0.598572E 00	-0.530686E 00	-0.463154E 00	-0.395970E 00
0.95	-0.329132E 00	-0.262636E 00	-0.196478E 00	-0.130655E 00	-0.651645E-01
1.00	0.000000E 00				

EVALUATE AND 2-UNIT SUPPORT REGION= 1.00 (0.71,1.00)

LOG LIKELIHOOD FOR ALL VALUES OF B AT THE GM LOCUS

(FOR TRISOMICS AGED 7 MONTHS TO 2 YEARS INCL.)

	.00	.01	.02	.03	.04
0.00	-0.831776E 01	-0.827826E 01	-0.823975E 01	-0.820223E 01	-0.816568E 01
0.05	-0.813011E 01	-0.809551E 01	-0.806186E 01	-0.802918E 01	-0.799745E 01
0.10	-0.796667E 01	-0.793684E 01	-0.790796E 01	-0.788002E 01	-0.785303E 01
0.15	-0.782698E 01	-0.780188E 01	-0.777772E 01	-0.775451E 01	-0.773225E 01
0.20	-0.771094E 01	-0.769058E 01	-0.767119E 01	-0.765275E 01	-0.763529E 01
0.25	-0.761880E 01	-0.760329E 01	-0.758877E 01	-0.757525E 01	-0.756274E 01
0.30	-0.755124E 01	-0.754076E 01	-0.753133E 01	-0.752294E 01	-0.751562E 01
0.35	-0.750938E 01	-0.750423E 01	-0.750019E 01	-0.749728E 01	-0.749552E 01
0.40	-0.749493E 01	-0.749553E 01	-0.749734E 01	-0.750040E 01	-0.750471E 01
0.45	-0.751033E 01	-0.751726E 01	-0.752556E 01	-0.753524E 01	-0.754636E 01
0.50	-0.755895E 01	-0.757304E 01	-0.758870E 01	-0.760595E 01	-0.762487E 01
0.55	-0.764550E 01	-0.766790E 01	-0.769214E 01	-0.771829E 01	-0.774642E 01
0.60	-0.777661E 01	-0.780895E 01	-0.784353E 01	-0.788046E 01	-0.791984E 01
0.65	-0.796180E 01	-0.800647E 01	-0.805398E 01	-0.810451E 01	-0.815821E 01
0.70	-0.821528E 01	-0.827593E 01	-0.834039E 01	-0.840891E 01	-0.848179E 01
0.75	-0.855933E 01	-0.864191E 01	-0.872993E 01	-0.882385E 01	-0.892420E 01
0.80	-0.903157E 01	-0.914667E 01	-0.927030E 01	-0.940342E 01	-0.954715E 01
0.85	-0.970282E 01	-0.987206E 01	-0.100568E 02	-0.102596E 02	-0.104835E 02
0.90	-0.107325E 02	-0.110118E 02	-0.113286E 02	-0.116929E 02	-0.121191E 02
0.95	-0.126301E 02	-0.132637E 02	-0.140912E 02	-0.152721E 02	-0.173163E 02
1.00	-0.999999E 06				

EVALUATE AND 2-UNIT SUPPORT REGION= 0.40 (0.00,0.84)

LOG LIKELIHOOD FOR ALL VALUES OF B AT THE GM LOCUS

(FOR TRISOMICS AGED 3 TO 5 YEARS INCL.)

	.00	.01	.02	.03	.04
0.00	-0.110903E 02	-0.110810E 02	-0.110729E 02	-0.110661E 02	-0.110607E 02
0.05	-0.110565E 02	-0.110537E 02	-0.110521E 02	-0.110519E 02	-0.110529E 02
0.10	-0.110553E 02	-0.110590E 02	-0.110640E 02	-0.110704E 02	-0.110780E 02
0.15	-0.110871E 02	-0.110975E 02	-0.111093E 02	-0.111224E 02	-0.111370E 02
0.20	-0.111529E 02	-0.111703E 02	-0.111891E 02	-0.112094E 02	-0.112311E 02
0.25	-0.112544E 02	-0.112792E 02	-0.113055E 02	-0.113333E 02	-0.113627E 02
0.30	-0.113938E 02	-0.114265E 02	-0.114609E 02	-0.114969E 02	-0.115347E 02
0.35	-0.115743E 02	-0.116156E 02	-0.116588E 02	-0.117039E 02	-0.117510E 02
0.40	-0.118000E 02	-0.118510E 02	-0.119041E 02	-0.119593E 02	-0.120167E 02
0.45	-0.120764E 02	-0.121384E 02	-0.122027E 02	-0.122696E 02	-0.123389E 02
0.50	-0.124109E 02	-0.124856E 02	-0.125631E 02	-0.126436E 02	-0.127270E 02
0.55	-0.128136E 02	-0.129034E 02	-0.129966E 02	-0.130933E 02	-0.131938E 02
0.60	-0.132980E 02	-0.134063E 02	-0.135188E 02	-0.136358E 02	-0.137573E 02
0.65	-0.138838E 02	-0.140154E 02	-0.141525E 02	-0.142954E 02	-0.144443E 02
0.70	-0.145997E 02	-0.147621E 02	-0.149318E 02	-0.151095E 02	-0.152955E 02
0.75	-0.154908E 02	-0.156958E 02	-0.159115E 02	-0.161388E 02	-0.163787E 02
0.80	-0.166324E 02	-0.169014E 02	-0.171872E 02	-0.174918E 02	-0.178174E 02
0.85	-0.181667E 02	-0.185429E 02	-0.189501E 02	-0.193930E 02	-0.198779E 02
0.90	-0.204128E 02	-0.210083E 02	-0.216784E 02	-0.224432E 02	-0.233320E 02
0.95	-0.243899E 02	-0.256929E 02	-0.273834E 02	-0.297808E 02	-0.339044E 02
1.00	-0.999999E 06				

EVALUATE AND 2-UNIT SUPPORT REGION= 0.08 (0.00,0.58)

LOG LIKELIHOOD FOR ALL VALUES OF B AT THE GM LOCUS

(FOR TRISOMICS AGED 6 YEARS AND OLDER)

	.00	.01	.02	.03	.04
0.00	-0.395093E 02	-0.394918E 02	-0.394793E 02	-0.394718E 02	-0.394693E 02
0.05	-0.394718E 02	-0.394794E 02	-0.394919E 02	-0.395095E 02	-0.395322E 02
0.10	-0.395599E 02	-0.395928E 02	-0.396308E 02	-0.396740E 02	-0.397223E 02
0.15	-0.397760E 02	-0.398349E 02	-0.398992E 02	-0.399688E 02	-0.400438E 02
0.20	-0.401244E 02	-0.402105E 02	-0.403023E 02	-0.403997E 02	-0.405029E 02
0.25	-0.406120E 02	-0.407270E 02	-0.408480E 02	-0.409751E 02	-0.411084E 02
0.30	-0.412481E 02	-0.413942E 02	-0.415468E 02	-0.417061E 02	-0.418723E 02
0.35	-0.420454E 02	-0.422256E 02	-0.424131E 02	-0.426080E 02	-0.428105E 02
0.40	-0.430209E 02	-0.432392E 02	-0.434657E 02	-0.437006E 02	-0.439443E 02
0.45	-0.441968E 02	-0.444585E 02	-0.447296E 02	-0.450105E 02	-0.453014E 02
0.50	-0.456028E 02	-0.459149E 02	-0.462381E 02	-0.465729E 02	-0.469197E 02
0.55	-0.472789E 02	-0.476510E 02	-0.480367E 02	-0.484363E 02	-0.488506E 02
0.60	-0.492802E 02	-0.497258E 02	-0.501883E 02	-0.506683E 02	-0.511669E 02
0.65	-0.516849E 02	-0.522235E 02	-0.527838E 02	-0.533671E 02	-0.539748E 02
0.70	-0.546083E 02	-0.552695E 02	-0.559601E 02	-0.566822E 02	-0.574381E 02
0.75	-0.582304E 02	-0.590620E 02	-0.599361E 02	-0.608564E 02	-0.618273E 02
0.80	-0.628534E 02	-0.639404E 02	-0.650948E 02	-0.663241E 02	-0.676374E 02
0.85	-0.690454E 02	-0.705610E 02	-0.722002E 02	-0.739826E 02	-0.759329E 02
0.90	-0.780832E 02	-0.804753E 02	-0.831664E 02	-0.862360E 02	-0.898013E 02
0.95	-0.940433E 02	-0.992658E 02	-0.106037E 03	-0.115637E 03	-0.132141E 03
1.00	-0.999999E 06				

EVALUATE AND 2-UNIT SUPPORT REGION= 0.04 (0.00,0.32)

LOG LIKELIHOOD FOR ALL VALUES OF B AT THE INV LOCUS

(FOR TRISOMICS MORE THAN ONE YEAR OLD)

	.00	.01	.02	.03	.04
0.00	-0.150744E 02	-0.150545E 02	-0.150363E 02	-0.150197E 02	-0.150048E 02
0.05	-0.149917E 02	-0.149802E 02	-0.149705E 02	-0.149624E 02	-0.149560E 02
0.10	-0.149515E 02	-0.149486E 02	-0.149474E 02	-0.149480E 02	-0.149505E 02
0.15	-0.149545E 02	-0.149605E 02	-0.149683E 02	-0.149778E 02	-0.149892E 02
0.20	-0.150025E 02	-0.150176E 02	-0.150347E 02	-0.150538E 02	-0.150747E 02
0.25	-0.150976E 02	-0.151225E 02	-0.151495E 02	-0.151785E 02	-0.152096E 02
0.30	-0.152430E 02	-0.152784E 02	-0.153160E 02	-0.153560E 02	-0.153982E 02
0.35	-0.154427E 02	-0.154897E 02	-0.155391E 02	-0.155911E 02	-0.156456E 02
0.40	-0.157028E 02	-0.157625E 02	-0.158251E 02	-0.158906E 02	-0.159590E 02
0.45	-0.160303E 02	-0.161048E 02	-0.161823E 02	-0.162632E 02	-0.163476E 02
0.50	-0.164354E 02	-0.165267E 02	-0.166219E 02	-0.167209E 02	-0.168239E 02
0.55	-0.169311E 02	-0.170428E 02	-0.171588E 02	-0.172795E 02	-0.174053E 02
0.60	-0.175361E 02	-0.176723E 02	-0.178141E 02	-0.179619E 02	-0.181158E 02
0.65	-0.182763E 02	-0.184436E 02	-0.186183E 02	-0.188005E 02	-0.189910E 02
0.70	-0.191901E 02	-0.193984E 02	-0.196166E 02	-0.198453E 02	-0.200853E 02
0.75	-0.203375E 02	-0.206027E 02	-0.208822E 02	-0.211771E 02	-0.214890E 02
0.80	-0.218191E 02	-0.221697E 02	-0.225428E 02	-0.229409E 02	-0.233670E 02
0.85	-0.238246E 02	-0.243181E 02	-0.248530E 02	-0.254355E 02	-0.260741E 02
0.90	-0.267793E 02	-0.275652E 02	-0.284507E 02	-0.294625E 02	-0.306395E 02
0.95	-0.320421E 02	-0.337716E 02	-0.360176E 02	-0.392061E 02	-0.446963E 02
1.00	-0.999999E 06				

,EVALUATE AND 2-UNIT SUPPORT REGION= 0.12 (0.00,0.56)

LOG LIKELIHOOD FOR ALL VALUES OF B AT THE INV LOCUS

(FOR TRISOMICS AGED 1 MONTH TO 1 YEAR INCL.)

	.00	.01	.02	.03	.04
0.00	-0.526226E 01	-0.521271E 01	-0.516372E 01	-0.511531E 01	-0.506744E 01
0.05	-0.502015E 01	-0.497340E 01	-0.492719E 01	-0.488152E 01	-0.483639E 01
0.10	-0.479178E 01	-0.474771E 01	-0.470416E 01	-0.466113E 01	-0.461861E 01
0.15	-0.457660E 01	-0.453511E 01	-0.449412E 01	-0.445364E 01	-0.441367E 01
0.20	-0.437419E 01	-0.433521E 01	-0.429674E 01	-0.425876E 01	-0.422128E 01
0.25	-0.418430E 01	-0.414781E 01	-0.411183E 01	-0.407634E 01	-0.404135E 01
0.30	-0.400686E 01	-0.397288E 01	-0.393939E 01	-0.390641E 01	-0.387395E 01
0.35	-0.384199E 01	-0.381055E 01	-0.377962E 01	-0.374922E 01	-0.371935E 01
0.40	-0.369000E 01	-0.366120E 01	-0.363294E 01	-0.360524E 01	-0.357809E 01
0.45	-0.355151E 01	-0.352550E 01	-0.350008E 01	-0.347526E 01	-0.345103E 01
0.50	-0.342743E 01	-0.340445E 01	-0.338213E 01	-0.336045E 01	-0.333946E 01
0.55	-0.331916E 01	-0.329956E 01	-0.328070E 01	-0.326260E 01	-0.324526E 01
0.60	-0.322874E 01	-0.321304E 01	-0.319820E 01	-0.318425E 01	-0.317124E 01
0.65	-0.315919E 01	-0.314815E 01	-0.313817E 01	-0.312930E 01	-0.312159E 01
0.70	-0.311512E 01	-0.310993E 01	-0.310612E 01	-0.310376E 01	-0.310296E 01
0.75	-0.310382E 01	-0.310644E 01	-0.311099E 01	-0.311759E 01	-0.312642E 01
0.80	-0.313771E 01	-0.315166E 01	-0.316854E 01	-0.318868E 01	-0.321245E 01
0.85	-0.324029E 01	-0.327274E 01	-0.331048E 01	-0.335430E 01	-0.340523E 01
0.90	-0.346462E 01	-0.353421E 01	-0.361638E 01	-0.371443E 01	-0.383327E 01
0.95	-0.398041E 01	-0.416851E 01	-0.442131E 01	-0.479203E 01	-0.545056E 01
1.00	-0.999999E 06				

EVALUATE AND 2-UNIT SUPPORT REGION= 0.74 (0.03,0.99)